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CATALOGUE

OF THE

BIRDS

IN THE

BRITISH MUSEUM.

VOLUME XVII.

LONDON:

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1892.

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PREFACE.

The present Volume contains an account of the remaining families of the suborder *Coraciæ* as understood by Seebohm, as well as of the *Halcyones*, *Bucerotes*, and *Trogones*.

The numbers of the species of the nine families treated of, and of the specimens at present in the Collection, are as follows :—

	Species.	Types.	Specimens.
Leptosomatidæ.....	2	..	16
Coraciidæ	25	7	663
Meropidæ	36	5	692
Alcedinidæ	183	57	3679
Momotidæ	21	7	347
Todidæ.....	5	1	41
Coliidæ.....	10	2	104
Bucerotidæ	68	12	1079
Trogonidæ	47	19	1283
	397	110	7904

Of these 397 species, only 16 are wanting to the collection of the Museum, and more than one-fourth of them are represented by the types; but besides these there are 30 other typical specimens now considered identical with previously named species.

In many cases the series of specimens is sufficiently complete to illustrate the whole geographical range of a species—a result chiefly due to the accession of the great faunistic collections referred

to in the previous volumes, and also to numerous recent donations, of which those made by the Lords of the Admiralty, Dr. Jayakar, W. D. Cumming, Esq., and Captain Mochler Ferryman should be specially mentioned. The Tweeddale Collection contained nearly the whole of the materials described in Dr. Sharpe's Monograph of the *Alcedinidæ*.

ALBERT GÜNTHER,
Keeper of the Department of Zoology.

British Museum (N. H.),
June 1, 1892.

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(*contin.*).

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(*contin.*).

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CATALOGUE

OF

BIRDS.

Order PICARIÆ.

(Cat. B. vol. xvi. p. 1.)

Suborder CORACIÆ (*continued*).

(*Cf.* vol. xvi. p. 434.)

Family LEPTOSOMATIDÆ.

Sexes different in colour, the dorsal plumage of the male metallic.

Palate desmognathous.

Feet semi-zygodactyle; the outer toe cleft to the base and partly reversible; the inner toe united to the middle one along the basal joint.

A powder-down patch on each side of the rump.

Nostrils exposed, linear, situated in the middle of the upper mandible, with a horny plate across the nasal opening instead of a membrane; the loral plumes recurved and directed forward over the base of the culmen. Bill decurved; tomium straight, hooked slightly at the end; genys straight for the basal half, gently ascending towards the end.

Tail-feathers twelve.

Range. Confined to Madagascar.

[One genus only.]

1. LEPTOSOMA.

Type.

Leptosomus, *Vieill. Analyse*, p. 28 (1816) ..... L. discolor.
Crombus, *Reichenb. Handb., Merop.* p. 51 (1852)..... L. discolor.

Range. Confined to Madagascar, the islands of Mayotte and Anjuan, and Great Comoro.

1. Leptosoma discolor.

Le Grand Coucou de Madagascar, *Briss. Orn.* iv. p. 160, pl. 15. figs. 1, 2 (1760); *Daubent. Pl. Enl.* vi. pls. 587, 588.

Le Vouron-Driou, *Montb. Hist. Nat. Ois.* vi. p. 395 (1779).

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Cuculus discolor, *Herm. Tabl. Affin. Anim.* p. 186 (1777).
African Cuckow cum var. A, *Lath. Gen. Syn.* i. pt. 2, p. 532 (1782).
Cuculus æneus, *Bodd. Tabl. Pl. Enl.* p. 36 (1783).
Cuculus afer, *Gm. S. N.* i. p. 418 (1788).
Le Vourong Driou, *Levaill. Ois.* v. p. 24, pls. 226, 227 (1806); *Sundev. Crit. om Levaill.* p. 49 (1857).
Bucco africanus, *Steph. in Shaw's Gen. Zool.* ix. p. 25 (1815).
Leptosomus vourong-driou, *Dumont, Dict. Sci. Nat.* xi. p. 145 (1818).
Leptosomus afer, *Temm. Man. d'Orn.* p. lxxiv (1820); *Steph. Gen. Zool.* xiv. p. 207 (1826); *Bp. Consp.* p. 96 (1850); *Hartl. Faun. Madag.* p. 63 (1861); *Roch & E. Newt. Ibis*, 1863, p. 453.
Vourongdriou afer, *Kuhl, Fig. Av. Col. Nom. Syst.* p. 10 (1820).
Leptosomus viridis, *Vieill. N. Dict. d'Hist. Nat.* xxxvi. p. 251 (1819); *id. & Oudart, Gal. Ois.* i. p. 29, pl. xl. (1825); *Less. Traité*, p. 134 (1831); *Swains. Classif. B.* ii. p. 333 (1837).
Leptosomus crombus, *Less. Traité*, p. 134 (1831).
Crombus madagascariensis, *Reichenb. Handb., Merop.* p. 52, tab. 435. fig. 3190 (1852).
Leptosomus afer, *Bp. Consp. Volucr. Zygod.* p. 13 (1854).
Leptosomus discolor, *Cab. & Heine, Mus. Hein.* Th. iv. p. 57 (1862); *Scl. Ibis*, 1864, p. 299; *Hartl. Vög. Madag.* p. 255 (1877); *Milne-Edw. & Grand. Hist. Nat. Madag., Ois.* i. p. 224, pls. lxxxiii.–lxxxviii. (1879); *Milne-Edw. & Oustalet, N. Arch. Mus.* (2) vi. p. 233 (1888).
Leptosoma discolor, *Scl. P. Z. S.* 1865, p. 682; *A. Newt. t. c.* p. 834; *Grandid. Rev. et Mag. de Zool.* 1867, p. 354; *Sckl. & Poll. Faun. Madag., Ois.* p. 157 (1868); *Gray, Hand-l. B.* i. p. 77, no. 912 (1869); *Sharpe, P. Z. S.* 1870, p. 398; *id. Ibis*, 1871, p. 285; *Shelley, P. Z. S.* 1879, p. 673 (pt.).

Adult male. Crown of head, crested, dull plumbeous grey glossed with metallic green and copper; lores, cheeks, and a collar round the back of the neck dark ashy grey; entire back, scapulars, and least wing-coverts glossy green, everywhere tinged with shining coppery red; greater wing-coverts entirely coppery red; primary-coverts dull steel-green; quills greyish black, the inner web white at the base, the outer web glossed with green, as also the secondaries, which have the outer web coppery red like the scapulars; tail greyish black, strongly glossed with metallic green and slightly with coppery red; entire under surface of body dark ashy grey, becoming white on the abdomen and under wing- and tail-coverts: "bill dark brown: tarsus brown in front, orange behind; soles orange; iris dark brown" (*E. Newton*). Total length 16 inches, culmen 1·7, wing 10, tail 8, tarsus 1·15.

Adult female. Different from the male. General colour above rufous-brown, barred on the sides of the head and back of the neck with glossy black; crown of head for the most part black; entire back brown, spotted with fulvous, and everywhere glossed with dull green and coppery-red shades; wing-coverts black, spotted with chestnut, glossed with coppery red; quills greyish black, white at the base of the inner web; secondaries barred and mar-

gined with chestnut and glossed with coppery red; tail brown, becoming black towards the tip, which is slightly edged with rufous; under surface of the body pale fawn-colour, everywhere spotted with glossy greenish black; the flank-feathers whitish at the tip. Total length 17 inches, culmen 1·75, wing 10·2, tail 8·5, tarsus 1·25.

Young male. Resembles the old female, and has the head barred with rufous, the underparts spotted with black, and the wing-coverts edged with chestnut; but it differs in having the whole of the back ashy with green and coppery reflexions, though not so pronounced as in the adult male.

The adult males from Madagascar and Mayotte have the wing from 10 to 10·3 inches, and the females from 10·2 to 10·6 inches, so that it appears that the hen birds are a little the larger.

Hab. Madagascar, Mayotte, and Anjuan Island.

a. ♀ ad. sk.	N. Madagascar (*A. Crossley*).	Sharpe Coll.
b, c. ♂ juv.; et ♀ ad. sk.	East of Antananarivo, July.	Rev. W. Deans Cowan [C.].
d. ♀ ad. sk.	Ankafana Forest, Betsileo, March 21 (*W. Deans Cowan*).	Shelley Coll.
e, f. ♂ ad. et juv. sk.	N.E. Madagascar (*Van Dam*).	Shelley Coll.
g. ♂ ad. sk.	Madagascar.	Mr. Gerrard [C.].
h, i. ♂ ♀ ad. sk.	Mayotte, May, June (*Pollen & Van Dam*).	Tweeddale Coll.
k. [♂ juv.] sk.	Anjuan Island (*Sir J. Kirk*).	Shelley Coll.
l. ♂ ad. st.	Madagascar.	Sir J. Kirk [C.].
m. Skeleton.	Anjuan Island.	Sir J. Kirk [C.].

Subsp. *a.* Leptosoma gracile.

Leptosomus discolor (*nec Herm.*), *Scl. Ibis*, 1864, p. 299; *Shelley, P. Z. S.* 1879, p. 675 (pt.).

Leptosomus gracilis, *Milne-Edw. & Oust. C. R. Acad. Sci.* ci. 1885, p. 220 (1885).

Leptosomus discolor, var. gracilis, *iid. Ann. Sci. Nat. Zool.* 1887, art. no. 5, p. 219; *iid. N. Arch. Mus.* (2) x. p. 239 (1888).

Adult male. Similar to *L. discolor*, but smaller. Total length 14·5 inches, culmen 1·7, wing 8·65–9, tail 7, tarsus 1·05.

Adult female. Similar to the female of *L. discolor*, but differing in its smaller size, paler coloration, and chestnut tail, the latter clouded with blackish towards the ends and on the outer feather, a few bars being seen on some of the tail-feathers also. Total length 14·5 inches, culmen 1·6, wing 8·4, tail 7, tarsus 1·1.

The *young male* at first resembles the adult female and has the same chestnut tail, but the back is more ashy, and the quills are blackish, externally shot with green.

Hab. Great Comoro Island.

a, b. ♂ ad. et juv. sk.	Great Comoro Island.	M. Humblot [C.].
c, d. ♂ ♀ ad. sk.	Great Comoro Island (*Sir J. Kirk*).	Shelley Coll.

Family CORACIIDÆ.

Sexes similar in colour; the plumage of the upper surface non-metallic.

Bill Corvine in shape, culmen rounded; the tomium slightly curved and the genys also nearly straight, ascending gently towards the end.

Palate desmognathous.

Feet anisodactyle, the outer toe united to the middle toe at the extreme base; the inner toe united for its basal joint.

No powder-down patches.

Oil-gland nude.

Ambiens muscle absent.

Nostrils placed near the base of the upper mandible, and hidden by bristly feathers.

Tail-feathers twelve.

Range. Temperate and tropical portions of the Old World.

Key to the Subfamilies and Genera.

a. Tarsus elongated, exceeding the middle toe in length. Habits terrestrial ..... *BRACHYPTERACIINÆ.*

a'. Bill long, measured from gape exceeding the length of the tarsus ..... 1. BRACHYPTERACIAS, p. 4.

b'. Bill shorter, much less than the tarsus in length.

a''. Wing much longer than the tail ..... 2. GEOBIASTES, p. 6.

b''. Wing and tail about equal .. 3. ATELORNIS, p. 7.

b. Tarsus shortened, less than half the length of the middle toe. Habits arboreal ..... *CORACIINÆ.*

c'. Bill slender, compressed, much longer than it is broad..... 4. CORACIAS, p. 9.

d'. Bill short, depressed and slightly hooked, as broad at gape as it is long ..... 5. EURYSTOMUS, p. 28.

Subfamily I. BRACHYPTERACIINÆ.

1. BRACHYPTERACIAS.

	Type.
Brachypteracias, *Lafr. Rev. et Mag. de Zool.* 1834, pl. 31	B. leptosomus.
Chloropygia, *Swains. Classif. B.* ii. p. 333 (1837)	B. leptosomus

Range. Confined to Madagascar.

1. Brachypteracias leptosomus.

Colaris leptosomus, *Less. Illustr. Zool.* pl. 20 (1832).

Brachypteracias leptosomus, *Lafr. Mag. de Zool.* 1834, *Ois.* pl. 31; *Gray, Gen. B.* i. p. 61 (1845); *id. Cat. Fissir. Brit. Mus.* p. 35 (1848); *Bp. Consp.* i. p. 166 (1850); *Reichenb. Handb., Merop.* p. 53, Taf. 436. figs. 3191–92 (1852); *Bp. Consp. Volucr. Anis.* p. 7 (1854); *Hartl. Faun. Madag.* p. 28 (1861); *E. Newt. Ibis*, 1863, p. 341; *Grand. Rev. et Mag. de Zool.* 1867, p. 354; *Schl. & Poll. Faune Madag., Ois.* p. 158 (1868); *Gray, Hand-l. B.* i. p. 77, no. 913 (1869); *Sharpe, P. Z. S.* 1870, p. 398; *id. Ibis*, 1871, p. 280; *Hartl. Vög. Madag.* p. 70 (1877); *Milne-Edwards & Grandid. H. N. Madag., Ois.* i. p. 235, pls. 96, 96 *a*, 97–99 (1879).

Chloropygia leptosomus, *Swains. Classif. B.* ii. p. 333 (1837).

Brachypteracias collaris, *Pucher. Rev. Zool.* 1846, p. 198; *id. Arch. Mus.* iv. p. 343 (1849).

Adult. Head and neck chestnut-brown, everywhere suffused with a beautiful plum-coloured gloss; a parting from the base of the bill, extending up the middle of the head, and the lores reddish brown, the latter extending backwards over the eye and developing into a slight white eyebrow; cheeks and ear-coverts dark chestnut, spotted and banded with white; back and scapulars dull green, somewhat mixed with brown; lower portion of the back, rump, and upper tail-coverts green; rest of the wings brown, everywhere banded at the tip with two lines of dark green, enclosing a broader one of white; quills brown, white at the base of the inner web, the primaries externally margined with fulvous, becoming white towards the tip; secondaries broadly washed with fulvous brown on the outer web and with greenish on the inner web, especially the innermost, which blend with the scapulars; tail for the most part coppery brown, the two centre feathers entirely of this colour and glossed with greenish, all the outer feathers with a broad purplish-black band near the extremity, which is white, the latter colour being dashed with violet; throat chestnut, the centre of each feather being much paler and inclining to fulvous towards the tip, which is dull white, producing a striped appearance; a broad crescent-shaped band across the breast, extending on each side to the sides of the neck, white, slightly washed with pale chestnut; upper part of breast alternately banded with white, chestnut, and black, the latter colour disappearing on the sides of the body, which are banded with chestnut and white only, the flanks tinged with greenish; centre of the abdomen and under tail-coverts creamy white; thighs brown, washed with greenish, and narrowly banded with white; under wing-coverts white, slightly mottled with brown: "feet rosy; iris brown" (*A. Grandidier*). Total length 12·5 inches, culmen 1·5, wing 5·5, tail 5·2, tarsus 1·4.

Young. Duller in colour than the adult, the bill blackish, with a tip of horny white; the head reddish brown, with scarcely any lilac gloss; the back overshaded with reddish brown; the white collar on the under surface feebly developed.

Hab. Madagascar.

a. Ad. sk.	Madagascar.	A. Crossley [C.].
b, *c*. Ad. sk.	Madagascar (*Audebert*).	Shelley Coll.
d. Ad. sk.	Madagascar (*A. Crossley*).	Shelley Coll.
e. Juv. sk.	Madagascar.	Purchased.

2. GEOBIASTES.

Type.
Geobiastes, *Sharpe, Ibis*, 1871, p. 281 ..... G. squamigera.

Range. Confined to Madagascar.

1. Geobiastes squamigera.

Brachypteracias squamigera, *Lafr. Rev. Zool.* 1838, p. 224; *Bp. Consp.* i. p. 166 (1850); *Grand. Rev. et Mag. de Zool.* 1867, p. 354; *Schl. Mus. Pays-Bas*, Coraces, p. 138 (1867); *id. & Poll. Faun. Madag., Ois.* p. 158 (1867); *Gray, Hand-l. B.* i. p. 77, no. 915 (1869); *Milne-Edwards & Grandid. Hist. Nat. Madag., Ois.* i. p. 241, pls. 96*a*, 99–102 (1879).

Atelornis squamigera, *Pucher. Rev. Zool.* 1846, pp. 193, 200; *Des Murs, Iconogr. Orn.* pl. 39 (1846); *Reichenb. Handb., Merop.* p. 53, Taf. 436. fig. 3194 (1852); *Bp. Consp. Volucr. Anis.* p. 7 (1854); *Hartl. Faun. Madag.* p. 28 (1861).

Geobiastes squamigera, *Sharpe, Ibis*, 1871, p. 281: *id. P. Z. S.* 1871, p. 316; *Hartl. Vög. Madag.* p. 72 (1877).

Adult. Crown black down the centre; sides of head and neck and breast white tinged with fulvous, and everywhere so mottled with black as to produce a scaled appearance; lores, ear-coverts, cheeks, and throat more distinctly tinged with buff and not so prominently scaled; a line of black extending from the eye backwards to the nape, and another from the lower part of the eye below the ear-coverts; back of neck and upper portion of back rich bay; interscapular region olive-green, marked with little silvery bands here and there, this appearance being caused by the white tips to some of the feathers, with a narrow black band on each side; scapulars rather brighter green, with a faint indication of a silvery bar here and there; least wing-coverts bordering the edge of the wing dull reddish brown; remainder of wing-coverts olive-green tinged with brown, the outer ones marked with buffy white, the innermost ones barred towards the tips with white, edged with green on each side and margined with black on the outer edge; primary-coverts black; quills black, pale brown at the tips, the inner web white at the base; the outer web of the 4th, 5th, 6th, and 7th primaries also white, forming a small alar bar; the secondaries externally washed with grass-green, the inner ones washed with olive-brown and blending with the scapulars; lower back and rump grass-green; tail particoloured, greenish at base, except on the outer web, which is cobalt; a broad band of coppery bay extending across the tail, followed by one of black, and by another one of pale blue along the extremity of the tail-feathers, the two middle ones greenish, but tinged with copper colour towards the ends of the feathers; lower portion of breast and belly buffy

white, the flanks brownish and everywhere mottled with black and white cross-bars; the centre of the abdomen unmottled; under wing-coverts reddish brown mixed with white, and a line of pure white feathers running along the radius: "feet reddish; iris brown" (*A. Grandidier*). Total length 12 inches, culmen 1·5, wing 5, tail 4·3, tarsus 2·05.

Hab. Madagascar.

a. Ad. sk.	S.E. Madagascar, Feb. (*A. Crossley*).	Sharpe Coll.
b. Ad. sk.	S.E. Madagascar (*A. Crossley*).	Shelley Coll.
c, *d*. ♂ ♀ ad. sk.	S.E. Madagascar, Feb. (*Auaebert*).	Shelley Coll.

3. ATELORNIS.

	Type.
Atelornis, *Pucher. Rev. Zool.* 1846, p. 200	A. pittoides.
Corapitta *, *Bp. Consp. Vol. Anis.* p. 7 (1854)	A. pittoides.

Range. Confined to Madagascar.

Key to the Species.

a. Head blue, with white spots on the eyebrow; lores and ear-coverts and cheeks black; a large blue patch at the sides of the neck ..... *pittoides*, p. 7.

b. Head rufous like the sides of the face; throat striped with black and white ..... *crossleyi*, p. 8.

1. Atelornis pittoides.

Brachypteracias pittoides, *Lafr. Mag. de Zool.* 1834, pl. 32; *Gray, Gen. B.* i. p. 61 (1845); *id. Cat. Fissir. Brit. Mus.* p. 35 (1848); *Bp. Consp.* i. p. 166 (1850); *Schl. Mus. Pays-Bas*, Coraces, p. 138 (1867); *Grand. Rev. et Mag. de Zool.* 1867, p. 354; *Schl. & Poll. Faun. Madag., Ois.* p. 158 (1868); *Gray, Hand-l. B.* i. p. 77, no. 914 (1869); *Milne-Edwards & Grandid. H. N. Madag., Ois.* i. p. 244, pls. 103 *a*, 103 *b*, 104, 104 *a* (1879).

Atelornis pittoides, *Pucher. Rev. Zool.* 1846, p. 200; *Reichenb. Handb., Merop.* p. 53, pl. 436. fig. 3193 (1852); *Hartl. Faun. Madag.* p. 28 (1861); *Roch & E. Newt. Ibis*, 1862, p. 271, pl. 9; *E. Newt. Ibis*, 1863, p. 341; *Sharpe, P. Z. S.* 1870, p. 398; *id. Ibis*, 1871, p. 383, pl. viii.; *Hartl. Vög. Madag.* p. 74 (1877).

Corapitta pittoides, *Bp. Consp. Volucr. Anis.* p. 7 (1854).

Adult. Head very deep cobalt, a little brighter over the eye, with the superciliary feathers minutely spotted with white, developing into a narrow white eyebrow above the eye and over the ear-coverts; lores, cheeks, and ear-coverts deep black; back of the neck and upper part of the back chestnut-brown; lower portion of the back grass-green, somewhat tinged with olive on the upper tail-coverts; wing-coverts bright grass-green, the outer row of the

* This name should have been written *Coracopitta*. This same generic title, however, has been proposed for *Melanopitta lugubris* of Schlegel by Dr. Sclater (Cat. B. Brit. Mus. xiv. p. 449), for which I propose the amended name of *Coracocichla*.

greater series washed with cobalt; primary-coverts black; quills black, becoming brown towards the tip, white at the base of the inner web, and the basal half of the outer web of all the primaries, except the first, white, showing a conspicuous alar bar; the secondaries washed towards their ends with grass-green, the outermost with a slight tinge of blue towards the base, and the innermost tinged with olive-green like the scapulars; tail deep cobalt, except the two centre feathers, which are olive-brown; entire throat creamy white, bordered on each side by a triangular patch of cobalt-blue feathers; sides of neck beyond this blue patch rich bay; breast and flanks bay, duller on the latter; centre of the belly and under tail-coverts creamy white, the latter marked with brown; under wing-coverts whitish tinged with buff: "feet of a rosy grey; iris brown" (*A. Grandidier*). Total length 10·5 inches, culmen 1·4, wing 4·5, tail 4·6, tarsus 1·7.

Young. Much duller in colour than the adults; head dull blue, with a buffy white eyebrow, but no white-tipped feathers; blue collar on sides of throat represented by a collar of dull black slightly washed with blue; throat white, with dusky blackish edges to the feathers; white wing-spot somewhat tinged with blue.

Hab. E. Madagascar.

a, *b*, Ad. sk.	Madagascar.	A. Crossley [C.]
c. Ad. sk.	Madagascar (*A. Crossley*).	Salvin-Godman Coll.
d. Ad. sk.	Madagascar (*A. Crossley*).	Tweeddale Coll.
e, Juv. sk.	Madagascar (*A. Crossley*).	Sharpe Coll.
f, *g*. Ad. sk.	Madagascar (*A. Crossley*).	Shelley Coll.
h, *i*. Skeletons.	Madagascar (*A. Crossley*).	Purchased.

2. Atelornis crossleyi.

Atelornis crossleyi, *Sharpe, P. Z. S.* 1875, p. 74, pl. xiv.; *Hartl. Vög. Madag.* p. 77 (1877).

Brachypteracias crossleyi, *Milne-Edw. & Grandid. Hist. Nat. Madag., Ois.* i. p. 249, pls. 103, 103 *b*.

Adult (type of species). Head rufous bay, lightest on the lores and darker on the ear-coverts, shading off into dull greenish on the hind neck; entire back deep grass-green, as also the upper tail-coverts; the tail black, more or less washed with green, the centre tail-feathers washed with olive; wing-coverts green like the back, the greater series inclining to cobalt-blue at their tips, the outermost ending in a conspicuous white spot; primary-coverts and quills black, the latter white at the base, forming a transverse alar bar, the secondaries externally green and thus resembling the back; chin, sides of face, and fore neck bright bay, the throat with a large triangular patch of black, varied with dilated white shaft-streaks; rest of under surface dull ochraceous, paler in the centre of the body; the flanks and under tail-coverts washed with green; under wing-coverts black washed with greenish, and having two bars of white across the wing, in addition to the more distinct white band

at the base of the primaries; bill and feet black. Total length 10·5 inches, culmen 1·1, wing 3·75, tail 4·5, tarsus 1·65.

Hab. Eastern Madagascar.

a. Ad. sk.	E. Madagascar.	A. Crossley [C.]. (Type of species.)
b. Ad. sk.	E. Madagascar (*A. Crossley*).	Shelley Coll.

Subfamily II. CORACIINÆ.

4. CORACIAS.

	Type.
Coracias, *Linn. Syst. Nat.* i. p. 159 (1766)	C. garrulus.
Galgulus, *Briss. Orn.* ii. p. 63 (1760).....	C. garrulus.
Coraciura, *Bp. Consp. Volucr. Anis.* p. 7 (1854)	C. cyanogaster.

Range. The whole of Europe and Africa, through Persia to Central Asia, the whole of the Indian Peninsula and Ceylon, the Burmese countries, and Celebes.

Key to the Species.

a. With no white nuchal patch.
  a'. With a band of silvery blue on the quills, either basal or subterminal.
    a''. With a broad subterminal band of silvery blue on the quills.
      a'''. With a broad band of purplish blue at the end of the tail; upper tail-coverts purplish blue, darker than the rump .. *indicus*, p. 10.
      b'''. With no band at the end of the tail, though occasionally a blackish spot at the end is present; upper tail-coverts light silvery blue, paler than the rump.. *affinis*, p. 13.
    b''. With no subterminal band on the quills, the basal part only being light.
      c''. Abdomen light verditer-blue.
        a[4]. Outer tail-feathers not elongated; primary-coverts silvery blue ..... *garrulus*, p. 15.
        b[4]. Outer tail-feathers elongated.
          a[5]. Primary-coverts silvery blue; no racquet at end of long outer tail-feather.
            a[6]. Throat blue like the breast and abdomen ..... *abyssinicus*, p. 19.
            b[6]. Throat lilac, streaked with white, and contrasting with the rest of the body, which is green and blue from the fore neck downwards .. *lorti*, p. 20.
            c[6]. Throat and breast lilac, leaving only the abdomen blue ..... *caudatus*, p. 21.
          b[5]. Primary-coverts purplish blue like the outer aspect of the primaries; long outer tail-feather spatulated at the end..... ..... *spatulatus*, p. 22.

d'''. Abdomen purplish blue, contrasting with the breast, which is fawn-buff with a greenish shade; primary-coverts purplish blue ..... *cyanogaster*, p. 27.

b'. With no light band of silvery blue on the quills, these being entirely black, glossed with purple internally and on the outer web; back olive-greenish; head and upper tail-coverts silvery cobalt .... *temminckii*, p. 26.

b. With a white nuchal patch.

c'. Crown of head lilac-rufous, contrasting with the olive shade on the back; throat lilac-rufous like the rest of the underparts, all being streaked with white ..... *nævius*, p. 24.

d'. Crown of head greenish olive like the back; throat and fore neck somewhat purplish, contrasting with the breast, which is lilac-rufous ..... *olivaceiceps*, p. 25.

1. Coracias indicus.

The Jay from Bengal, *Albin, Nat. Hist. B.* i. p. 17, pl. 17 (1738, *fig. pess.*).

The Blue Jay from the East Indies, *Edwards, Gleanings*, iii. p. 247, pl. 326 (1764).

Le Rollier de Mindanao, *Briss. Orn.* i. p. 69, pl. i. fig. 1 (1760); *Daubent. Pl. Enl.* iii. pl. 285.

Coracias indica, *Linn. Syst. Nat.* i. p. 159 (1766); *Gm. S. N.* i. p. 378 (1788); *Sykes, P. Z. S.* 1832, p. 96; *Jerd. Madr. Journ.* xi. p. 229 (1840); *Blyth, Ann. & Mag. N. H.* xii. p. 94 (1843); *Gray, Gen. B.* i. p. 62 (1845); *id. Cat. Mamm. etc. Nepal pres. Hodgs.* p. 55 (1846, pt.); *id. Cat. Fissir. Brit. Mus.* p. 33 (1848); *Blyth, Cat. B. Mus. As. Soc.* p. 51 (1849); *Bp. Consp.* i. p. 167 (1850); *Kelaart, Prodr. Cat.* p. 118 (1852); *Reichenb. Handb., Merop.* p. 48, tab. 433. fig. 3185 (1852); *Bp. Consp. Volucr. Anis.* p. 7 (1854); *Horsf. & Moore, Cat. B. Mus. E. I. Co.* ii. p. 571 (1856); *Cab. & Heine, Mus. Hein.* Th. ii. p. 118 (1859); *Irby, Ibis*, 1861, p. 228; *Jerd. B. Ind.* i. p. 214 (1862); *Beavan, Ibis*, 1865, p. 407; *Blyth, Ibis*, 1866, p. 345; *Schl. Mus. Pays-Bas*, Coraces, p. 135 (1867); *Gray, Hand-l. B.* i. p. 76, no. 900 (1869); *Gould, B. Asia*, i. pl. 54 (1869); *Elwes, Ibis*, 1870, p. 527; *Dresser, B. Eur.* v. p. 149, pl. 249 (1871); *Holdsw. P. Z. S.* 1872, p. 423; *Blyth, Ibis*, 1873, p. 80; *Hayes Lloyd, t. c.* p. 406; *Hume, Nests & Eggs Ind. B.* p. 103 (1873); *id. Str. F.* i. p. 167 (1873); *Morgan, Ibis*, 1874, p. 314; *Butler, Str. F.* iii. p. 456 (1875); *Bourd. Str. F.* iv. p. 382 (1876); *Scl. & E. C. Taylor, Ibis*, 1876, p. 63; *Fairb. Str. F.* v. p. 394 (1877); *Blanf. East. Persia*, ii. p. 126 (1876); *Davidson & Wenden, Str. F.* vii. p. 77 (1878); *Ball, t. c.* p. 203; *Legge, B. Ceylon*, p. 281 (1878); *Danf. Ibis*, 1878, p. 7; *Hume, Str. F.* viii. p. 85 (1879); *Scully, t. c.* p. 237; *Doig, t. c.* p. 370; *Butler, Cat. B. Sind etc.* p. 16 (1879); *id. Cat. B. S. Bomb. Pres.* p. 18 (1880); *Vidal, Str. F.* ix. p. 49 (1880); *Wardlaw Ramsay, Ibis*, 1880, p. 50; *Davids. Str. F.* x. p. 295 (1882); *Davison, t. c.* p. 351 (1883); *Murray, Vertebr. Faun. Sind*, p. 109 (1884); *Swinh. & Barnes, Ibis*, 1885, p. 61; *Reid, Cat. Lucknow Mus.* p. 22 (1886); *Sharpe, Ibis*, 1886, pp. 165, 488; *Taylor, Str. F.* x. p. 456 (1887); *Terry, t. c.* p. 471; *Sharpe, P. Z. S.* 1890, p. 547; *Oates, ed. Hume's Nests & Eggs Ind. B.* iii. p. 53 (1890).

Coracias bengalensis, *Linn. S. N.* i. p. 159 (1766); *Pearson, J. A. S. Beng.* x. p. 651 (1841); *Hodgs. Icon. ined., Passeres*, pl. xii. fig. 1 (no. 613); *id. in Gray's Zool. Misc.* p. 82 (1844); *Cab. et Heine, Mus. Hein.* Th. ii. p. 118 (1859).
Indian Roller, *Lath. Gen. Syn.* i. pt. i. p. 412 (1781).
Le Rollier varié d'Afrique, *Levaill. Ois. Parad. et Rolliers*, p. 80, pl. 28 (1806).
Garrulus nævius (*nec Licht.*), *Vieill. N. Dict. d'Hist. Nat.* xxix. p. 431, pl. 6. fig. 4 (1819).
Galgulus nævius (*nec Licht.*), *Vieill. Enc. Méth.* ii. p. 868 (1823).
Coracias nævius (*nec Licht.*), *Wagler, Syst. Av.* Coracias, spec. 3, p. 217 (1827).
Coracias bengalensis indica, *Temm. Tabl. Méth.* p. 10 (1839).

Adult male. Above drab-brown, with a wash of oil-green under certain lights; rump greenish blue, washed with purple; the upper tail-coverts more purple, edged with greenish blue: the lesser wing-coverts bright purplish blue, remainder of the wing-coverts greenish blue, the greater coverts lighter at their ends; bastard-wing and primary-coverts silvery cobalt, with dusky blue tips; quills purplish blue, the inner secondaries like the back, the primaries with a bright band of silvery cobalt decreasing in size towards the centre of the wing; all but the outer primaries with a basal mark of silvery cobalt, mostly concealed by the greater coverts; centre tail-feathers green, with a median wash of blue, the rest of the feathers purplish blue at the base, succeeded by a broad band of silvery cobalt and terminated with a band of purplish blue; crown of head and nape green, with a slight wash of verditer, and a streak of greenish blue above the eyes; base of forehead sandy buff, succeeded by a shade of purplish lilac; lores and feathers below the eye reddish buff; fore part of cheeks and chin sandy buff with a purplish shade; sides of face, ear-coverts, throat, and chest purplish lilac, with greenish-white shafts to the feathers; sides of neck and a collar round the hind neck purplish lilac, the latter with a slight wash of oil-green; breast lilac-brown; abdomen, thighs, under wing- and tail-coverts silvery cobalt: "bill blackish brown, paler at the base of the lower mandible; inside of mouth pale greenish yellow; feet brownish yellow; eyelid and naked skin round the eye pale gamboge; iris greyish brown" (*E. A. Butler*). Total length 12 inches, culmen 1·5, wing 7·3, tail 5, tarsus 0·95.

Adult female. Similar to the male in colour: "legs and feet yellowish olive; iris brown" (*E. A. Butler*). Total length 12 inches, culmen 1·4, wing 7·15, tail 5·2, tarsus 1.

Hab. From Asia Minor to Persia and N. Arabia, thence to Baluchistan. The whole of the Indian Peninsula and Ceylon.

a, *b*. Ad. sk.	Muscat, Arabia.	Colonel Miles [P.].
c. ♀ ad. sk.	Muscat.	W. T. Blanford, Esq. [P.].
d. Ad. sk.	Fao, Persian Gulf.	W. D. Cumming, Esq. [P.].
e. ♀ ad. sk.	Bampusht, Baluchistan, March.	W. T. Blanford, Esq. [C.].
f. ♀ ad. sk.	Dera Ghazi Khan.	Hume Coll.

g, *h*. ♂ ♀ ad. sk.	Sukkur, Sind, Dec. (*A. O. H.*).	Hume Coll.
i, *k*. ♂ ad. sk.	Karachi, Nov. (*E. A. Butler*).	Hume Coll.
l. Ad. sk.	Hyderabad (*Dr. H. Gould*).	India Museum.
m. ♀ ad. sk.	Deesa, Feb. (*E. A. Butler*).	Hume Coll.
n, *o*. ♂ ; *p*. ♀ ad. sk.	Sambhur, Dec. (*R. M. Adam*).	Hume Coll.
q–*g'*. ♂ ; *h'*–*p'*. ♀ ad. sk.	Gurgaon District, Jan. to May (*W. N. Chill*).	Hume Coll.
q'. ♂ ad. sk.	Murdan, Feb.	Hume Coll.
r'. ♂ ad. sk.	Dhoon, Jan.	Hume Coll.
s'. ♂ ad. sk.	Umbala, Nov. (*R. C. Beavan*).	Tweeddale Coll.
t', *u'*. ♂ ♀ ad. sk.	Etawah, May.	Hume Coll.
v', *w'*. Ad. sk.	Mogul Serai, Nov. (*W. E. Brooks*).	Hume Coll.
x'–*a''*. ♂; *b''*. ♀ ad. sk.	Futtehgurh, Jan. (*A. Anderson*).	Hume Coll.
c''. ♀ ad. sk.	Allahabad, Dec.	Hume Coll.
d'', *e''*. Ad. sk.	Nepal.	Hodgson Coll.
f''. Ad. sk.	Behar.	Hodgson Coll.
g''. ♂ imm. sk.	Muddapur, June 19 (*W. E. Brooks*).	Seebohm Coll.
h''. ♀ ad. sk.	Dacca.	Hume Coll.
i'', *k''*. ♂ ♀ ad. sk.	Calcutta, Feb.	Hume Coll.
l''. Ad. sk.	Maunbhoom, Feb. (*R. C. Beavan*).	Tweeddale Coll.
m''–*o''*. Ad. sk.	Kamptee.	Dr. B. Hinde [P.].
p''. ♂ ad. sk.	Mhow, Dec.	Col. C. Swinhoe [P.].
q''–*s''*. Ad. sk.	Khandeish.	Tweeddale Coll.
t''. ♂ ad. sk.	Taloda, Khandeish, Dec. (*J. Davidson*).	Hume Coll.
u''. ♂ ad. sk.	Satpura Hills, Jan.	Hume Coll.
v''–*x''*. ♂; *y''*–*a*^{3}. ♀ ad. sk.	Ahmednuggur, Nov., Dec., Jan. (*S. B. Fairbank*).	Tweeddale Coll.
b^3. ♂ ad. sk.	Khandala, March (*S. B. F.*).	Tweeddale Coll.
c^3, *d*^{3}. ♀ ad. sk.	Belgaum, March, Oct. (*E. A. Butler*).	Hume Coll.
e^3, *f*^{3}. Ad. sk.	Madras, April (*W. D.*).	Hume Coll.
g^3. ♂ ad. sk.	Bangalore, Oct. 10 (*R. G. W. R.*).	Tweeddale Coll
h^3. ♀ ad. sk.	Rampore, Mysore, May (*W. D.*).	Hume Coll.
i^3, *k*^{3}. Ad sk.	Malabar.	Tweeddale Coll.
l^3, *m*^{3}. Ad. sk.	Anjango, Dec.	Hume Coll.
n^3. Ad. sk.	Travancore, Jan. 18.	F. Bourdillon, Esq. [C.].
o^3, *p*^{3}. Ad. sk.	Ceylon (*H. Nevill*).	Tweeddale Coll.
q^3, *r*^{3}. Ad. sk.	Ceylon, July (*S. Chapman*).	Tweeddale Coll.
s^3. ♀ ad. sk.	Ceylon, July 24.	Col. V. Legge [P.].
t^3. ♂ ad. sk.	Kumgalli, Ceylon, Oct. 17 (*W. V. Legge*).	Seebohm Coll.
u^3. ♂ ad. sk.	Negombo, Nov. (*Hart*).	Hume Coll.
v^3. Ad. st.	India.	J. R. Reeves, Esq. [P.].
w^3. Bones of trunk.	Nepal.	Hodgson Coll.

Hybrids between Coracias indicus and C. affinis.

Le Rollier varié des Moluques, *Levaill. Ois. Parad. Rolliers*, pl. 27 (1806).
Coracias affinis (*nec McClell*), *Gould, B. Asia*, i. pl. 55 (1869); *Brooks, Str. F.* viii. p. 463 (1879).
Coracias indica (*nec L.*), *Scully, Str. F.* viii. p. 237 (1879, pt.).
Coracias indica affinis, *Sharpe, P. Z. S.* 1890, p. 549.

The undermentioned specimens are apparently hybrids between *C. indicus* and *C. affinis*, and partake of the characters of both species.

a. ♂; *b, c.* ♀ ad. sk.	Nepal, Sept., Nov., Dec. (*J. Scully*).	Hume Coll.
d–g. Ad. sk.	Nepal.	Hodgson Coll.
h, i. Ad. sk.	Nepal (*B. H. Hodgson*).	India Museum.
k, l. Ad. sk.	Native Sikhim, March, April (*L. Mandelli*).	Hume Coll.
m. Ad. sk.	Sikhim.	Seebohm Coll.
n, o, p. Ad. sk.	Sikhim, March, April, Sept. (*L. Mandelli*).	Hume Coll.
q. Ad. sk.	Darjiling.	Seebohm Coll.
r. Ad. sk.	Darjiling Terai, Dec. (*L. Mandelli*).	Hume Coll.
s, t, u. Ad. sk.	Tippera.	Hume Coll.
v. ♂ ad. sk.	Calcutta, Dec. 28.	Hume Coll.

2. Coracias affinis.

Coracias affinis, *McClell. P. Z. S.* 1839, p. 164; *Gray, Gen. B.* i. p. 62, pl. 21 (1845); *Blyth, Cat. B. Mus. As. Soc.* p. 51 (1849); *Reichenb. Handb., Merop.* p. 50, tab. 434. fig. 3186 (1852); *Horsf. & Moore, Cat. B. Mus. E. I. Co.* ii. p. 574 (1856); *Jerd. B. Ind.* i. p. 217 (1862); *Schomb. Ibis*, 1864, p. 246; *Schl. Mus. P.-B.* Coraces, p. 136 (1867); *Beavan, Ibis*, 1869, p. 408; *Cab. & Heine, Mus. Hein.* Th. ii. p. 118 (1869); *Gray, Hand-l. B.* i. p. 76, no. 901 (1869); *Blanf. Ibis*, 1870, p. 465; *Godwin-Aust. J. A. S. Beng.* xxxix. p. 95 (1870); *Hume, Str. F.* iii. p. 50 (1875); *Blyth & Wald. B. Burm.* p. 72 (1875); *Armstr. Str. F.* iv. p. 305 (1876); *Hume, Str. F.* v. p. 18 (1877); *id. & Davison, Str. F.* vi. p. 72 (1878); *Anderson, Rep. Zool. Exped. Yun-nan*, p. 581 (1878); *Tiraut, Ois. Cochin Chine*, p. 99 (1879); *Hume, Str. F.* viii. p. 85 (1879); *Oates, Handb. B. Brit. Burm.* ii. p. 69 (1883); *Salvad. Ann. Mus. Civ. Genov.* (2) iv. p. 589 (1887); *Hume, Str. F.* xi. p. 48 (1888); *Sharpe, P. Z. S.* 1890, p. 548; *Oates, ed. Hume's Nests & Eggs Ind. B.* iii. p. 56 (1890).
Coracias bengalensis (*nec Linn.*), *Bp. Consp. Vol. Anis.* p. 7 (1854).

Adult male. Above dingy olive-brown; wings as in *C. indicus*; lower back and rump purplish blue; upper tail-coverts silvery cobalt; centre tail-feathers dark blue, dusky at the ends, the remainder purplish blue for the basal half, then silvery cobalt to the tips, with a slight shade of dusky black at the ends, the outer feather with a distinct terminal spot of black; crown of head greenish blue, more verditer-blue on the forehead and above the eye; sides of face and breast dingy brown, paler on the latter, and slightly washed with

lilac on the cheeks and sides of the throat; chin whitish; throat streaked with lilac-blue; abdomen and under tail-coverts silvery cobalt, with a purplish shade on the flanks; thighs, under wing-coverts, and basal quill-lining purplish blue. Total length 12 inches, culmen 1·45, wing 7·6, tail 4·7, tarsus 1.

Adult female. Similar to the male in colour. Total length 12 inches, culmen 1, wing 7·3, tail 4·8, tarsus 0·95.

Young. Duller in colour than the adults and more of an ashy brown; the blue colour of the wings and tail much paler; the throat-feathers streaked with white, but without purple; head pale ashy brown, without any greenish blue.

Hab. From Nepal to Assam and Tenasserim and the Indo-Chinese countries generally.

a, *b*. Ad. sk.	Nepal.	Hodgson Coll.
c, *d*. Ad. sk.	Nepal (*B. H. Hodgson*).	India Museum.
e, *f*. Ad. sk.	Sikhim, Jan.	Hume Coll.
g. Ad. sk.	Darjiling.	Hume Coll.
h. Ad. sk.	Darjiling.	Seebohm Coll.
i. Ad. sk.	Bootan (*Pemberton*).	India Museum.
k–*o*. Ad. sk.	Bootan Dooars, Jan., Feb., April (*L. Mandelli*).	Hume Coll.
p. ♂ ad. sk.	Dacca.	Hume Coll.
r, *s*. Ad. sk.	Assam (*McClelland*).	India Museum. (Types of species.)
t. ♂ ad. sk.	Dhollah, May (*J. Cockburn*).	Hume Coll.
u, *v*. Ad. sk.	Dibrughur, May (*J. R. Cripps*).	Hume Coll.
w. Ad. sk.	Garo Hills (*H. H. Godwin-Austen*).	Tweeddale Coll.
x, *y*. ♂ ad. sk.	N. Khasia Hills (*A. W. Chennell*).	Tweeddale Coll.
z. Ad. sk.	Cachar (*J. Inglis*).	Hume Coll.
a'. ♂ ad. sk.	Sylhet, Jan. (*A. O. H.*).	Hume Coll.
b'. Ad. sk.	Manipur, March (*A. O. H.*).	Hume Coll.
c'. Ad. sk.	Bhamo, Feb.	Dr. J. Anderson [C.].
d'. Ad. sk.	Mungla, Sanda Valley, May.	Dr. J. Anderson [C.].
e'. Ad. sk.	Ava.	W. T. Blanford, Esq. [P.].
f', *g'*. Ad. sk.	Tonghoo District, Feb., Oct. (*E. W. O.*).	Oates Coll.
h'–*o'*. Ad. et imm. sk.	Tonghoo, Jan., May, June, Aug., Dec. (*R. G. W. R.*).	Tweeddale Coll.
p'. ♂ ad. sk.	Borougho Island, Akyab, March (*J. Armstrong*).	Hume Coll.
q', *r'*. ♂ juv. sk.	Thayetmyo, Pegu, Sept. (*R. G. W. R.*).	Tweeddale Coll.
s'. ♂ ad. sk.	Rangoon District, Nov. (*J. Armstrong*).	Hume Coll.
t'–*v'*. ♂ ♀ ad. sk.	Rangoon, Dec., June, July (*R. G. W. R.*).	Tweeddale Coll.
w'–*z'*. ♀ ad. et juv. sk.	Pegu, Aug., Dec., Feb. (*E. W. O.*).	Hume Coll.

a''. ♂ ad. sk.	Khyketo, Tenasserim, Feb. 22 (*W. D.*).	Hume Coll.
b''. ♂ ; *c''*, *d''*. ♀ ad. sk.	Pahpoon, Dec., Jan., Feb. (*W. D.*).	Hume Coll.
e'', *f''*. ♂ ♀ ad. sk.	Kaukaryit, June (*C. T. B.*).	Hume Coll.
g'', *h''*. ♂ ; *i''–k''*. ♀ ad. sk.	Thatone, Nov., Jan., May (*W. D.*).	Hume Coll.
l'', *m''*. ♂ juv. sk.	Tavoy, June (*W. D.*).	Hume Coll.
n'', *o''*. ♂ ad. sk.	Thenzeik, Dec. 12 (*W. D.*).	Hume Coll.
p''. ♂ ad. sk.	Mergui, Jan. 7 (*W. D.*).	Hume Coll.
q''. ♂ ad. sk.	Choungthanoung, Dec. (*W. D.*).	Hume Coll.
r''. ♀ ad. sk.	Attaran River, Dec. (*W. D.*).	Hume Coll.
s''–v''. ♂ ; *w''–d*[1]. ♀ ad. sk.	Amherst, Dec. to March, June, July (*W. D.*).	Hume Coll.
e[3]. ♂ ad. sk.	Moulmein, Oct. (*R. C. Beavan*).	Tweeddale Coll.
f[3]. ♂ ad. sk.	Moulmein, Dec. (*W. D.*).	Hume Coll.
g[3], *h*[3]. Ad. sk.	Cochin China.	M. E. Pierre [P.].
i[3], *k*[3]. Ad. sk.	Siam.	M. E. Pierre [P.].
l[3]. Ad. sk.	Siam (*Sir R. Schomburgk*).	Seebohm Coll.

3. Coracias garrulus.

The Roller, *Edwards, Nat. Hist. B.* iii. pl. 109 (1751) ; *Yarr. Brit. B.* ii. p. 195 (1843).

Le Rollier, *Briss. Orn.* ii. p. 64 (1760) ; *Daubent. Pl. Enl.* iii. pl. 486.

Coracias garrula, *Linn. S. N.* i. p. 159 (1766) ; *Gm. S. N.* i. p. 378 (1788) ; *Pall. Zoogr. Rosso-Asiat.* i. p. 441 (1811) ; *Temm. Man.* i. p. 127 (1820) ; *Vieill. Faune Franç.* p. 128, pl. 57. fig. 2 (1820) ; *Naum. Vög. Deutschl.* ii. p. 158, Taf. 60 (1822) ; *Werner, Atlas, Omnivores*, pl. 17 (1827) ; *Brehm, Vög. Deutschl.* p. 160 (1831) ; *Gould, B. Eur.* ii. pl. 60 (1837) ; *Macg. Brit. B.* iii. p. 540 (1840) ; *Crespon, Ornith. Gard*, p. 75 (1840) ; *Keys. u. Blas. Wirb. Eur.* p. 150 (1840) ; *Nordm. in Démid. Voy. Russ. Mérid.* iii. p. 205 (1840) ; *Selys-Longch. Faune Belge*, p. 107 (1842) ; *Schl. Rev. Crit.* p. lvi (1844) ; *Mühle, Orn. Griechenl.* p. 33 (1844) ; *Gray, Gen. B.* i. p. 62 (1845) ; *Rüpp. Syst. Uebers.* p. 23 (1845) ; *Gray, List Fissir. Brit. Mus.* p. 33 (1848) ; *Blyth, Cat. B. Mus. As. Soc.* p. 51 (1849) ; *Bp. Consp.* i. p. 167 (1850) ; *Reichenb. Handb., Merop.* p. 45, pl. 431. figs. 3179–80 (1852) ; *Kjærb. Orn. Dan.* pl. 13. fig. 4 (1852) ; *Schl. Vog. Nederl.* p. 262, pl. 135 (1854) ; *Hewits. Eggs Br. B.* i. p. 253, pl. 64. fig. 3 (1856) ; *Horsf. & Moore, Cat. B. Mus. E. I. Co.* ii. p. 570 (1856) ; *Sundev. Svensk. Fogl.* pl. 21. fig. 3 (1856) ; *Jard. Edinb. N. Phil. Journ.* new ser. iii. p. 242 (1856) ; *Hartl. Orn. W.-Afr.* p. 29 (1857) ; *Tristr. Ibis*, 1859, p. 27 ; *Salvin, t. c.* p. 302 ; *Heuglin, t. c.* p. 339 ; *Jaub. et Barth.-Lapomm. Rich. Orn* p. 321 (1859) ; *Tristr. Ibis*, 1860, p. 152 ; *Powys, t. c.* p. 235 ; *Cab. & Heine, Mus. Hein.* Th. ii. p. 117 (1860) ; *Linderm. Vög. Griechenl.* p. 45 (1860) ; *Schl. Dier. Nederl. Vog.* pl. xiv. figs. 1, 1*a* (1861) ; *Hartl. Faun. Madag.* p. 29 (1861) ; *id. J. f. O.* 1861, p. 104 ; *Jerd. B. Ind.* i. p. 218 (1862) ; *Gray, List Br. B.* p. 35 (1863) ; *Wright, Ibis*, 1864, p. 73 ; *De Filippi, Viagg. Pers.* p. 346 (1865) ; *More, Ibis*, 1865 p. 131 ; *Blyth, Ibis*, 1866, p. 81 ; *Gould, B. Gt. Br.* ii. pl. 11 (1866).

Drake, Ibis, 1867, p. 425; *Layard, B. S. Afr.* p. 70 (1867); *Finsch, J. f. O.* 1867, p. 237; *Deyland & Gerbe, Orn. Eur.* i. p. 169 (1867); *Loche, Expl. Sci. Algér., Ois.* ii. p. 88 (1867); *Schl. Mus. Pays-Bas*, Coraces, p. 133 (1867); *Collett, Norges Fugle*, p. 34 (1868); *Smith, Ibis*, 1868, p. 449; *Heugl. J. f. O.* 1868, p. 321; *id. Orn. N.O.-Afr.* i. p. 171 (1869); *Gray, Hand-l. B.* i. p. 75, no. 897 (1869); *Borggr. Vogelf. Norddeutschl.* p. 69 (1869); *Doderl. Avif. Sicil.* p. 54 (1869); *Fritsch, Vög. Eur.* p. 89, Taf. xiv. fig. 2 (1870); *Finsch & Hartl. Vög. Ostafr.* p. 152 (1870); *Elwes & Buckley, Ibis*, 1870, p. 189; *Sharpe, Ibis*, 1871, p. 188; *Salvad. Faun. Ital., Ucc.* p. 43 (1871); *Saunders, Ibis*, 1871, p. 66; *Gurney, t. c.* p. 76; *R. Gray, B. W. Scotl.* p. 202 (1871); *Dresser, B. Eur.* v. p. 141, pl. 293 (1871); *Harting, Handb. Br. B.* p. 34 (1872); *Jerd. Ibis*, 1872, p. 3; *G. F. L. Marshall, t. c.* p. 205; *G. C. Taylor, t. c.* p. 230; *Gurney in Anderss. B. Dam.-Ld.* p. 56 (1872); *Shelley, B. Egypt*, p. 168 (1872); *Severtz. Turkest. Jevotn.* p. 68 (1873); *Blyth, Ibis*, 1873, p. 80; *Brooke, t. c.* p. 236; *Hume, Nests & Eggs Ind. B.* p. 104 (1873); *id. Str. F.* i. p. 168 (1873); *Ayres, Ibis*, 1874, p. 102; *Shelley, Ibis*, 1875, p. 68; *Danf. t. c.* p. 300; *Irby, B. Gibr.* p. 65 (1875); *Fallon, Ois. Bely.* p. 28 (1875); *Barratt, Ibis*, 1876, p. 198; *Dresser, t. c.* p. 319; *Ayres, t. c.* p. 424; *Blanf. East. Persia*, ii. p. 125 (1876); *Scully, Str. F.* iv. p. 133 (1876); *St. John, Str. F.* v. p. 502 (1877); *Hartl. Vög. Madag.* p. 66 (1877); *Finsch, Ibis*, 1877, p. 52; *Tacz. Bull. Soc. Zool. France*, ii. p. 138 (1877); *Cab. J. f. O.* 1878, p. 234; *Danf. Ibis*, 1878, p. 7; *Bogd. B. Cauc.* p. 114 (1879); *Finsch, Verh. z.-b. Ges. Wien*, xxix. p. 153 (1879); *Fischer & Reichen. J. f. O.* 1879, p. 343; *Hume, Str. F.* viii. p. 85 (1879); *Butler, Cat. B. Sind Sc.* p. 16 (1879); *Bocage, Orn. Angola*, p. 536 (1881); *Newt. ed. Yarrell's Brit. B.* ii. p. 428 (1881); *Sharpe in Oates' Matabele-Land*, App. p. 302 (1881); *Gurney, Ibis*, 1881, pp. 124, 256; *Shelley, P. Z. S.* 1881, p. 566; *Bidd. Ibis*, 1881, p. 48; *Scully, t. c.* p. 429; *C. Swinh. Ibis*, 1882, p. 102; *Homeyer & Tancré, MT. orn. Ver. Wien*, 1883, p. 83; *Seeb. t. c.* p. 210; *Shelley, t. c.* p. 242; *Seeb. Ibis*, 1883, p. 21; *Sharpe, ed. Layard's B. S. Afr.* pp. 102, 805 (1884); *Clarke, Ibis*, 1884, p. 144; *Seebohm, Hist. Br. B.* ii. p. 327 (1884); *Tristr. Faun. & Flor. Palest.* p. 88 (1884); *Radde, Orn. Cauc.* p. 319 (1884); *Murray, Vertebr. Faun. Sind*, p. 109 (1884); *Fischer, J. f. O.* 1885, p. 127; *Krüper, t. c.* p. 279; *Sharpe, Ibis*, 1886, pp. 488, 498; *Gigl. Avif. Ital.* p. 214 (1886); *Salvad. Eleuc. Ucc. Ital.* p. 74 (1887); *Tait, Ibis*, 1887, p. 305; *Symonds, t. c.* p. 237; *Gigl. Avif. Ital.* 1st Resoc. p. 352 (1889); *St. John, Ibis*, 1889, p. 157; *Lilford, t. c.* p. 331; *Meade-Waldo, t. c.* p. 515; *Oates, ed. Hume's Nests & Eggs Ind. B.* iii. p. 56 (1890); *Lilford, Coloured Fig. B. Brit. Isl.* part xii. (1890); *Sharpe, P. Z. S.* 1890, p. 549; *id. Ibis*, 1891, p. 110.

Le Rollier d'Europe, *Montb. Hist. Nat. Ois.* iii. p. 153, pl. x. (1775).

The Garrulous Roller, *Lath. Gen. Syn.* i. pt. 1, p. 406 (1781).

Le Rollier vulgaire, *Levaill. Ois. Parad. Rolliers*, i. p. 90, pls. 32, 33 (1806).

Galgulus garrulus, *Vieill. N. Dict. d'Hist. Nat.* xxix. p. 428 (1819); *Roux, Orn. Provenç.* pl. 139 (1825); *Ménétr. B. Cauc.* p. 44 (1832).

Coracias germanicus, *Brehm, Vög. Deutschl.* p. 158 (1831).

Coracias planiceps, *Brehm, t. c.* p. 159 (1831).

Coracias loquax, *Licht. Nomencl. Av.* p. 68 (1854).

Coracias bengalensis (*nec* L.), *Keulem. Nederl. Tijdschr.* 8vo, iii. p. 380 (1866).

Adult male. General colour above light tawny brown, the inner secondaries like the back, but with dusky greenish inner webs; head greenish blue, a little brighter over the eye, the base of forehead and fore part of eyebrow whitish; lores black; fore part of cheeks and chin white; sides of face, cheeks, and under surface of body light greenish blue, becoming paler on the abdomen and under tail-coverts; breast and fore neck with mesial streaks of brighter greenish blue; upper wing-coverts greenish blue, except a band of small coverts along the carpal bend of the wing, which is purplish blue; bastard-wing and primary-coverts greenish blue, the former externally dark green, black at the end shaded with blue; quills black, with a greenish-blue base to the outer web, this light basal patch having a purplish-blue shade where it adjoins the black, the primaries externally greenish blue, the secondaries purplish on the outer web; lower back and rump purplish blue; upper tail-coverts bluish green, mesially shaded with purple; centre tail-feathers dull oily green, the rest greenish blue for two thirds of their outer web, black on their inner one, the terminal part light greenish blue with a black shaft, this light portion increasing towards the outermost feather, which is the only one which has a black tip: "bill blackish horn-colour; feet dark yellow; iris dark brown" (*J. A. Naumann*). Total length 12 inches, culmen 1·3, wing 7·5, tail 4·8, tarsus 0·85.

Adult female. Similar to the male in colour. Total length 12 inches, culmen 1·35, wing 7·4, tail 4·8, tarsus 0·9.

Young. Much duller and browner than the adults, the head and neck dull oily green, as also the sides of the face; the blue on the wing-coverts much less intense, with the greenish-blue colour overshaded with brown; chin ashy white, the lower throat streaked with greenish white; fore neck and breast light brown, streaked with paler shaft-lines; rest of under surface light greenish blue like the adults but paler; the bluish-green colour on the tail much more dingy than the adults and having no black at the end of the outer tail-feather.

Hab. Europe generally, extending to Central Asia, becoming rarer in the North, wintering in Africa; breeding also in Cashmere, and wintering in the extreme north-west of India.

a. Ad. sk.	Shetland.	F. Bond, Esq. [P.].
b, c. ♂ ♀ juv. sk.	Stockholm, Aug.	Mr. W. Meves [C.].
d. Ad. sk.	Southern Spain.	Lord Lilford [P.].
e. Ad. st.	Athens, Greece.	Consul Merlin [P.].
f. ♀ ad. sk.	Kart Hana, Turkey, May (*W. Pearce*).	Dr. R. B. Sharpe [P.].
g. ♂ ad. sk.	S. Volga, May.	Hume Coll.
h. ♀ ad. sk.	Chorum, Asia Minor, May 15 (*C. G. Danford*).	Seebohm Coll.
i, j. ♂ ♀ ad. sk.	Asia Minor, May (*T. Robson*).	Tweeddale Coll.
k, l. ♂ ad. sk.	Cyprus, April (*Dr. Guillemard*).	Lord Lilford [P.].
m, n. ♂ ♀ ad. sk.	Egypt, April (*G. E. S.*).	Shelley Coll.
o. ♂ ad. sk.	Palestine.	Canon Tristram [C.].
p, q. Ad. sk.	Mesopotamia (*Commander Jones*).	India Museum.

r, *s*. Ad. sk.	Bagdad.	Sir Kenneth Loftus [P.].
t, *u*. ♂ ♀ ad. sk.	Eklid and Shiraz, Persia.	Sir O. St. John [C.].
v, *w*. Ad. sk.	Teheran.	Charles Darwin, Esq. [P.].
x. Ad. sk.	Bushire, April.	A. J. V. Palmer, Esq. [P.].
y, *z*. ♂ ad. sk.	Fao, Aug.	W. D. Cumming, Esq. [P.].
a'. Ad. sk.	Mekran Coast (*E. A. Butler*).	Hume Coll.
b', *c'*. ♂ ad. sk.	Tschinas, Central Asia, April (*Russow*).	Seebohm Coll.
d', *e'*. ♀ ad. sk.	Sarakhs, May 20.	Seebohm Coll.
f', *g'*. ♂ ♀ ad. sk.	Tirphul and Kambao, N. Afghanistan, April, May.	Dr. Aitchison [P.].
h', *i'*, *j'*. Ad. et juv. sk.	Candahar (*Dr. Griffith*).	India Museum.
k'. ♂ ad. sk.	Candahar, May (*Sir O. St. John*).	Hume Coll.
l', *m'*. Ad. sk.	Candahar, April.	Col. Swinhoe [P.].
n'. Ad. sk.	Nal, Khelat, April (*O. T. Duke*).	Hume Coll.
o'. Ad. sk.	Sind, July.	Hume Coll.
p'. ♂ juv. sk.	Mooltan, Sept.	Hume Coll.
q'. Ad. sk.	Murree.	Hume Coll.
r'. Ad. sk.	Murree, July.	Colonel Way [P.].
s'. Ad. sk.	Sind Valley, Cashmere, July.	Hume Coll.
t'. ♂ ad. sk.	Srinagar, June (*Dr. G. Henderson*).	Hume Coll.
u'. ♂ ad. sk.	Kangan, Cashmere, May (*W. E. Brooks*).	Hume Coll.
v'. ♂ ad. sk.	Islamabad, May.	Hume Coll.
w', *x'*. ♀ ad. et imm. sk.	Cashmere, June, Aug.	Hume Coll.
y'. Juv. sk.	Cashmere (*Dr. Bellew*).	India Museum.
z'. Juv. sk.	Cashmere (*Dr. Jerdon*).	Tweeddale Coll.
a'', *b''*. Ad. sk.	Cashmere.	Pinwill Coll.
c'', *d''*. Ad.; *e''*. Juv. sk.	Cashmere, 8000 feet.	Purchased.
f''. Ad. sk.	Ladak.	Purchased.
g''–k''. ♀ ad. sk.	Gilgit, May, July (*Col. Biddulph*).	Hume Coll.
l''–p''. ♂; *q''*, *r''*. ♀ ad. sk.	Simla, Sept.	Hume Coll.
s''. Ad. sk.	Sibi, Nov.	Hume Coll.
t''. ♀ ad. sk.	Masuri.	Hume Coll.
u''. ♂ ad. sk.	Gurwhal, Sept.	Hume Coll.
v'', *w''*. ♂ ♀ ad. sk.	Sultanpur, Gurgaon, May, Sept. (*W. N. Chill*).	Hume Coll.
x''. Ad. sk.	Ajmere, Aug.	Hume Coll.
y''. ♀ ad. sk.	Dhulia, Khandeish, Sept. (*J. Davidson*).	Hume Coll.
z''. ♀ imm. sk.	Satpura Hills, Oct. (*V. Ball*).	Hume Coll.

African specimens.

a^3. Ad. sk.	Mombasa (*Rev. T. Wakefield*).	Dr. R. B. Sharpe [P.].
b^3. Ad. sk.	Mombasa, E. Africa.	Rev. F. A. Buxton [P.].
c^3. Ad. sk.	Usambara Hills (*Sir J. Kirk*).	Shelley Coll.
d^3. Imm. sk.	Zambesi (*Dr. Bradshaw*).	Shelley Coll.
e^3, f^3. Ad. sk.	Tati, Matabele-Land, March (*F. Oates*).	W. E. & C. G. Oates, Esqrs. [P.].
g^3. Imm. sk.	Vaal River.	F. A. Barratt, Esq. [P.].
h^3. Ad. sk.	Oliphant's Nek, Jan.	F. A. Barratt, Esq. [P.].
i^3. Ad. sk.	Durban (*Gordge*).	Shelley Coll.
k^3. ♀ imm. sk.	Pinetown, Jan. (*T. L. Ayres*).	Shelley Coll.
l^3. Imm. sk.	Kroonstad, May (*E. F. Symonds*).	Gurney Coll.
m^3, n^3. ♀ ad. sk.	Damara-Land, Jan. (*C. J. A.*).	Sharpe Coll.
o^3. ♀ ad. sk.	Otjimbinque, Jan. (*C. J. A.*).	Tweeddale Coll.
p^3. Skeleton.		Sharpe Coll.

4. Coracias abyssinicus.

The Swallow-tailed Indian Roller, *Edwards, Gleanings*, iii. pl. 27 (1764).

Rollier du Sénégal, *Daubent. Pl. Enl.* iii. pl. 326.

Le Rollier d'Abyssinie, *Daubent. t. c.* pl. 626; *Montb. Hist. Nat. Ois.* iii. p. 143 (1775).

Abyssinian Roller, *Lath. Gen. Syn.* i. pt. 1, p. 408 (1781).

Senegal Roller, *Lath. t. c.* p. 408.

Coracias abyssinica, *Bodd. Tabl. Pl. Enl.* p. 38 (1783); *Gm. S. N.* i. p. 379 (1788); *Swains. B. W. Afr.* ii. p. 105 (1837); *Rüpp. Syst. Uebers.* p. 23 (1845); *Lefebvre, Voy. Abyss., Zool.* p. 79 (1849); *Strickl. P. Z. S.* 1850, p. 216; *Bp. Consp.* i. p. 167 (1850); *Reichenb. Handb., Merop.* p. 46, Taf. 431. fig. 3181 (1852); *Scl. Contr. Orn.* 1852, p. 124; *Heugl. Syst. Uebers.* p. 17 (1856); *Horsf. & Moore, Cat. B. Mus. E. I. Co.* ii. p. 571 (1856); *Hartl. Orn. W.-Afr.* p. 30 (1857); *Cab. & Heine, Mus. Hein.* Th. ii. p. 117 (1860); *Hartl. J. f. O.* 1861, p. 104; *Brehm, Reis. Habesch*, p. 210 (1863); *Antin. Cat. descr. Ucc.* p. 26 (1864); *Schl. Mus. Pays-Bas*, Coraces, p. 134 (1867); *Gray, Hand-l. B.* i. p. 76, no. 905 (1869); *Blanf. Geol. & Zool. Abyss.* p. 319 (1870); *Finsch, Trans. Z. S.* vii. p. 220 (1870); *Sharpe, Ibis*, 1871, p. 197; *Antin. & Salvad. Viagg. Bogos*, p. 62 (1873); *Hartl. Abh. nat. Ver. Bremen*, vii. p. 110 (1881; Lado); *Salvad. Ann. Mus. Genov.* (2) i. p. 115 (1884); *Hartert, J. f. O.* 1886, p. 592; *Salvad. Ann. Mus. Genov.* (2) vi. p. 225 (1888).

Coracias senegalensis, *Gm. S. N.* i. p. 379 (1788); *Bp. Consp.* i. p. 167 (1850).

Le Rollier à longs brins d'Afrique, *Levaill. Ois. de Parad. Rolliers*, p. 75, tab. 25 (1806).

Coracias albifrons, *Steph. in Shaw's Gen. Zool.* vii. p. 392 (1809).

Galgulus caudatus (*nec L.*), *Vieill. N. Dict. d'Hist. Nat.* xxix. p. 433 (1819).

Coracias habessinica, *Hempr. & Ehr. Symb. Phys.* fol. z (1828); *Heugl. Orn. N.O.-Afr.* i. p. 174 (1869); *Dresser & Blanf. Ibis*, 1874, p. 337.
Coracias caudata (*nec L.*), *Wagler, Syst. Av.*, Coracias, sp. 2 (1827); *Gray, Gen. B.* i. p. 62 (1845); *id. Cat. Fissir. Brit. Mus.* p. 34 (1848).
Coraciura abyssinica, *Bp. Consp. Vol. Anisod.* p. 7 (1854).

Adult female. Similar to *C. garrula*, but with the outer tail-feather elongated to a great length: "bill black; feet greenish yellow; iris brown" (*W. Jesse*). Total length 18 inches, culmen 1·05, wing 6·7, tail 5·4, outer tail-feather 11·3, tarsus 0·85.

Adult male. Similar to the female. Total length 16·3 inches, culmen 1·45, wing 6·3, tail 5, outer tail-feather 10·4, tarsus 0·8.

Hab. North-eastern Africa and Senegambia, as well as the interior of the Niger district.

a. Ad. sk.	River Gambia (*Sir A. Moloney*).	Shelley Coll.
b. Ad. sk.	R. Gambia.	Sharpe Coll.
c. Ad. sk.	Dakar, Senegal (*L. Laglaize*).	Tweeddale Coll.
d. Ad. sk.	Nubia.	Shelley Coll.
e, *f*. ♂ ♀ ad. sk.	Kokai, Bogos-Land, July (*W. Jesse*).	Tweeddale Coll.
g. ♂ ad. sk.	Kokai, July.	W. T. Blanford, Esq. [C.].
h, *i*. Ad. sk.	Bogos-Land (*Esler*).	Shelley Coll.
k. ♀ ad. sk.	Makan, Abyssinia, April.	W. T. Blanford, Esq. [C.].
l. ♀ ad. sk.	Lake Ashangi, April (*W. Jesse*).	Salvin-Godman Coll.
m. Ad. sk.	White Nile.	Sir S. Baker [P.].
n, *o*, *p*. Ad. sk.	Shoa (*Sir W. C. Harris*).	India Museum.
q, *r*. Skeletons.	Abyssinia.	W. T. Blanford, Esq. [C.], and W. Jesse, Esq.

5. Coracias lorti.

? Coracias caudata, *Heugl. Orn. N.O.-Afr.* i. pt. 1, p. 173 (1869).
Coracias caudata (*nec L.*), *Salvad. Ann. Mus. Genov.* (2) i. p. 115 (1884).
Coracias lorti, *Shelley, Ibis*, 1885, p. 399; *Salvad. Ann. Mus. Genov.* (2) vi. p. 224 (1888).

Adult (type of species). Similar to *C. caudata*, but having the lilac throat arrested at the fore neck, the whole of the under surface from the fore neck downwards being blue as in *C. abyssinica*. Total length 13·5 inches, culmen 1·4, wing 6·31, tail 4·5, outer tail-feather 7, tarsus 0·8.

Hab. From Shoa to Somali-Land.

6. Coracias caudatus.

Le Rollier d'Angola, *Briss. Orn.* ii. p. 72, pl. vii. fig. 1 (1760); *Daub. Pl. Enl.* iii. pl. 88; *Montb. Hist. Nat. Ois.* iii. p. 144 (1775).

Coracias caudata, *Linn. Syst. Nat.* i. p. 160 (1766); *Gm. Syst. Nat.* i. p. 380 (1788); *Gray, Gen. B.* i. p. 62 (1845); *Des Murs, Iconogr. Orn.* pl. 28 (1846); *Gray, Cat. Fissir. Brit. Mus.* i. p. 34 (1848); *Bp. Consp.* i. p. 167 (1850); *Reichenb. Handb., Merop.* p. 47, Taf. 432. fig. 3182 (1852); *Scl. Contr. Orn.* 1852, p. 124; *Strickl. & Scl. Contr. Orn.* 1852, p. 154; *Hartl. Orn. W.-Afr.* p. 30 (1857); *Cab. & Heine, Mus. Hein.* Th. ii. p. 116 (1860); *Hartl. J.f. O.* 1861, p. 104; *Scl. P. Z. S.* 1862, p. 12, 1864, p. 110; *Kirk, Ibis,* 1864, p. 324; *Hartl. P. Z. S.* 1867, p. 824; *Schl. Mus. Pays-Bas,* Coraces, p. 135 (1867); *Layard, B. S. Afr.* p. 61 (1867); *Gurney, Ibis,* 1868, p. 461; *Cab. in Von der Decken's Reis.* iii. p. 34 (1869); *Sharpe, P. Z. S.* 1869, p. 569; *Layard, Ibis,* 1869, p. 364; *Gray, Hand-l. B.* i. p. 76, no. 904 (1869); *Finsch & Hartl. Vög. Ostafr.* p. 154 (1870); *Sharpe, Ibis,* 1871, p. 154; *Gurney in Anderss. B. Dam.-Ld.* p. 53 (1872); *Buckley, Ibis,* 1874, p. 364; *Barratt, Ibis,* 1876, p. 198; *Cab. J.f. O.* 1878, p. 234; *Fischer & Reichen. J. f. O.* 1878, p. 254; *Ayres, Ibis,* 1879, p. 290; *Bocage, Orn. Angola,* p. 84 (1881); *Sharpe in Oates' Matabele-Land,* p. 302 (1881); *Shelley, P. Z. S.* 1881, p. 566; *id. P. Z. S* 1882, p. 302; *id. Ibis,* 1882, p. 243; *Fischer, Zeitschr.* i. p. 359 (1884); *Sharpe, ed. Layard's B. S. Afr.* pp. 104, 805 (1884); *Boehm, J. f. O.* 1885, p. 57; *Fischer, J. f. O.* 1886, p. 127; *Ayres, Ibis,* 1886, p. 284, 1887, p. 50; *Matschie, J. f. O.* 1887, p. 152; *Schalow, t. c.* p. 236; *Tristr. Ibis,* 1889, p. 225; *Emin, J. f. O.* 1891, p. 59 (Ugogo).

Long-tailed Roller, *Lath. Gen. Syn.* i. pt. 1, p. 409 (1781).

Coracias angolensis, *Shaw, Gen. Zool.* vii. p. 394, pl. 51 (1809).

Coraciura caudata, *Bp. Consp. Volucr. Anisod.* p. 7 (1854).

Coracias nævia (*nec Daud.*), *Bianc. Spec. Zool. Mosamb.* fasc. 14. p. 49 (1865).

Coracias abyssinica (*nec Bodd.*), *Chapm. Trav. S. Afr.* ii. App. p. 408 (1868).

Adult male. Forehead and eyebrow hoary white; head and back of neck pale glossy green, the feathers pale brown at base, giving a fuscous appearance to the plumage; back and scapulars pale drab, washed with green; lower portion of the back and rump splendid cobalt, inclining to vivid green on the upper tail-coverts; greater coverts greenish cobalt, some of the innermost tinged with ultramarine; quills black, the basal portion silvery-greenish cobalt, the primary-coverts also of this colour; primaries externally edged with deep ultramarine, inclining to cobalt towards the extremity of the feather; some of the secondaries rather broadly washed with cobalt, the innermost drab like the back; general colour of the tail vivid greenish cobalt, the centre feathers olive-green, the next ones tinted with this colour towards the tip, and so on towards the outermost, each feather being gradually less stained with green; the two outer rectrices much elongated and narrowed, the elongated portion gradually verging from dark blue into deep black; chin hoary white; cheeks, throat, and upper portion of the breast rich vinaceous, the

shafts of some of the feathers being traced by longitudinal lines of white; rest of the under surface of body, with the under wing- and tail-coverts, brilliant greenish cobalt: "bill black; feet greenish yellow; iris yellowish brown, the ring round the eye greenish yellow" (*C. J. Andersson*). Total length 15 inches, culmen 1·4, wing 7, tail 5·5, tarsus 0·8.

Adult female. Similar to the male in colour. Total length 13·5 inches, culmen 1·3, wing 6·3, tail 7, tarsus 0·8.

Hab. Interior of South Africa to Angola on the West and to the Zanzibar region on the East Coast, as far as Uzinza.

a. Imm. sk.	Durban, Natal (*Gordge*).	Shelley Coll.
b. Ad. sk.	Oliphant's Nek.	F. A. Barratt, Esq. [C.].
c. Juv. sk.	Magaliesberg, Transvaal.	F. A. Barratt, Esq. [C.].
d. ♀ ad. sk.	Limpopo, May 12 (*W. Ayres*).	Gurney Coll.
e, f. ♂ ad. sk.	Transvaal, July (*T. E. Buckley*).	Shelley Coll.
g. ♂ ad. sk.	Matabele-Land (*Dr. Exton*).	Sharpe Coll.
h. ♀ ad. sk.	Geruah (*F. Oates*).	W. E. & C. G. Oates, Esqrs. [P.].
i. ♂ ad. sk.	1st Makalaka Kraal, Aug. 18 (*F. Oates*).	W. E. & C. G. Oates, Esqrs. [P.].
k. Ad. sk.	Makalaka Country (*Dr. Bradshaw*).	Shelley Coll.
l. Ad. sk.	Zambesi River.	Sir J. Kirk [P.].
m. Ad. sk.	Zambesi River (*Dr. Meller*).	Tweeddale Coll.
n–q. Ad. et juv. sk.	Tete, Zambesi (*Sir J. Kirk*).	Livingstone Exped.
r. Ad. st.	Zanzibar.	Massena Coll.
s. Ad. sk.	Pangani River, E. Africa (*Sir J. Kirk*).	Shelley Coll.
t. Ad. sk.	Dar-es-Salaam (*E. C. Buxton*).	Shelley Coll.
u, v. Ad. et juv. sk.	Useri River, east of Kilimanjaro, July.	H. C. V. Hunter, Esq. [P.].
w, x. Ad. sk.	Mombasa (*Rev. T. Wakefield*).	R. B. Sharpe, Esq. [P.].
y, z, a'. Ad. et imm. sk.	Mombasa.	Rev. A. F. Buxton [P.].
b', c'. ♀ ad. et juv. sk.	Otjimbinque, Damara-Land, Feb., July (*C. J. Andersson*).	Sharpe Coll.
d', e'. ♂ ♀ ad. sk.	Otjimbinque, Jan., May (*C. J. A.*).	Tweeddale Coll.
f'. ♀ ad. sk.	Humbe, Cunene River (*J. Anchieta*).	Shelley Coll.
g'. ♂ ad. sk.	Huilla, Benguela (*J. Anchieta*).	Shelley Coll.
h'. Ad. sk.	Loando (*J. Thompson*).	Shelley Coll.
i'. ♂ juv. sk.	Ambriz, April (*J. J. Monteiro*).	Sharpe Coll.

7. Coracias spatulatus.

Coracias spatulata, *Trimen, P. Z. S.* 1880, p. 30; *Bocage, Orn. Angola*, p. 536 (1881); *Shelley, Ibis*, 1882, p. 243; *Tristr. Ibis*, 1888, p. 266; *Emin, J. f. O.* 1891, p. 59 (Ugogo).

Coracias dispar, *Bocage, Jorn. Lisb.* 1880, p. 227.
Coracias caudata (*nec L.*), *Sharpe in Oates' Matabele-Land*, App. *Birds*, p. 302 (1881 x. pt.), specimen *d*.
Coracias weigalli, *Dresser, Ann. & Mag. Nat. Hist.* (6) vi. p. 351 (1890).

Adult male. Light olivaceous brown above, inclining to lilac on the lower back; rump lilac-blue; upper tail-coverts purplish blue; lesser wing-coverts deep purplish blue like the bastard-wing and primary-coverts; remainder of wing-coverts pale cinnamon washed with reddish lilac, the innermost secondaries of the same colour, but tipped with purplish black; primaries black, externally purplish blue, and showing a broad basal patch of cobalt; secondaries cobalt-blue, with a broad terminal band of purplish black; centre tail-feathers black, the median ones washed with olive-green, the two next washed with purplish blue, the next with a patch of cobalt on the outer web, this occupying the greater part of the two penultimate feathers, while the outermost is cobalt-blue with a black shaft; the end of the tail black and produced, ending in a small racket; lores and eyebrow white; sides of face and entire under surface of body pale greenish blue. Total length 13·5 inches, culmen 1·25, wing 6·4, tail 5·2, longest tail-feather 7·5, tarsus 0·75.

Adult female. Similar to the female. Total length 14 inches, culmen 1·1, wing 6·45, tail 4·9, tarsus 0·7.

A younger bird, identified by me as *C. caudata* in Oates' 'Matabele-Land,' has the sides of the face and the sides of the chest lilac-brown streaked with white. The throat, however, is bluish, the primary-coverts are purplish blue, and concealed by the under tail-coverts is the spatulated outer feather just beginning to appear.

During my recent visit to Berlin, Dr. Reichenow and I carefully examined the series of Racket-tailed Rollers in the Museum there, and we were perfectly agreed in considering the specimens with the lilac on the sides of the face and chest to be immature birds. Canon Tristram has kindly lent me the type of *C. weigalli* from his collection, and, notwithstanding that it has the appearance of being fully adult, I believe that it is really only an immature individual.

Hab. Makalaka country in S.E. Africa to Lake Tanganyika and Ugogo, west to Benguela.

a. ♀ imm. sk.	Pantanatenka River, Jan. (*F. Oates*).	W. E. & C. G. Oates, Esqrs. [P.].
b. ♂ ad. sk.	Umvuli River, Aug. 2 (*J. S. Jameson*).	Shelley Coll.
c. Ad. sk.	Ugogo (*Emin Pasha*).	Berlin Museum [P.].
d. ♀ ad. sk.	Caconda, Benguela (*J. Anchieta*).	Lisbon Museum [P.].

8. Coracias nævius.

Coracias nævia, *Daud. Traité*, ii. p. 258 (1800); *Licht. Verz. Doubl.* p. 20 (1823); *Strickl. P. Z. S.* 1850, p. 216; *Sharpe, Ibis*, 1871, p. 190 (pt.); *Antin. & Salvad. Viagg. Bogos*, p. 63 (1873); *Salvad. Ann. Mus. Genov.* (2) i. p. 114 (1884): *Shelley, Ibis*, 1885, p. 399; *Salvad. Ann. Mus. Genov.* (2) vi. p. 223 (1888).

? Hairy Roller, *Lath. Gen. Syn. Suppl.* ii. p. 123 (1801).

? Coracias pilosa, *Lath. Ind. Orn. Suppl.* p. xxvii (1801); *Vieill. N. Dict. d'Hist. Nat.* xxix. p. 430 (1819).

Le Rollier varié d'Afrique dans son jeune âge, *Levaill. Ois. Parad. Rolliers*, p. 84, pl. 29 (1806).

? Coracias crinita, *Steph. in Shaw's Gen. Zool.* vii. p. 401 (1809); *Bonap. Consp. Vol. Anis.* p. 7 (1854).

? Galgulus pilosus, *Vieill. Enc. Méth.* ii. p. 867 (1823).

Coracias nuchalis, *Swains. B. W. Afr.* ii. p. 110 (1837); *Gray, Gen. B.* i. p. 62 (1845); *Bonap. Consp. Vol. Anis.* p. 7 (1854).

Coracias levaillanti, *Temm.* (ubi?); *Rüpp. Syst. Uebers.* p. 23 (1845) *Heugl. Syst. Uebers.* p. 18 (1856).

Coracias pilosa, *Gray, Cat. Fissir. Brit. Mus.* p. 34 (1848); *Bp. Consp.* i. p. 167 (1850); *Reichenb. Handb., Merop.* p. 49, Taf. 433. fig. 3184 (1852); *Scl. Contr. Orn.* 1852, p. 124; *Horsf. & Moore, Cat. B. Mus. E. I. Co.* ii. p. 571 (1856); *Hartl. Orn. W.-Afr.* p. 30 (1857); *Cab. & Heine, Mus. Hein.* Th. ii. p. 117 (1860); *Antin. Cat. descr. Ucc.* p. 27 (1864); *Schl. Mus. Pays-Bas*, Coraces, p. 137 (1867, pt.); *Gray, Hand-l. B.* i. p. 75, no. 898 (1869); *Heugl. Orn. N.O.-Afr.* i. p. 172 (1869); *Blanf. Geol. & Zool. Abyss.* p. 319 (1870); *Finsch, Trans. Z. S.* vii. p. 221 (1870); *Hartl. Abhandl. nat. Ver. Bremen*, vii. p. 110 (1881; Muggi); *Hartert, J. f. O.* 1886, p. 592.

Adult male. General colour above olivaceous, the head not like the back, but clear reddish lilac like the under surface; a white nuchal patch; lores and base of forehead as well as a broad eyebrow white; lower rump and upper tail-coverts lilac-blue, the latter more purplish blue; wing-coverts reddish lilac, brighter along the edge of the wing; the smaller coverts near the carpal bend of the wing deep blue like the bastard-wing, primary-coverts, and outer aspect of the quills; the secondaries more or less lilac near their bases, this colour extending on the inner secondaries, the innermost of which are olive-lilac like the back, slightly washed with green; the primaries also washed with greenish blue on their outer web; tail-feathers dark purplish blue, with a greenish shade on the centre ones; chin white; under surface of body reddish lilac, streaked with white centres to the feathers; thighs almost white; under tail-coverts pale lilac; under wing-coverts pale lilac reddish; quills dusky below, shaded with blue, the base of the quills greyish white: "bill black; feet pale yellowish olive; iris brown, almost raw sienna" (*W. T. Blanford*). Total length 12 inches, culmen 1·7, wing 7·4, tail 5·3, tarsus 1.

Adult female. Similar to the male in colour. Total length 12·5 inches, culmen 1·45, wing 7, tail 5·4, tarsus 0·9.

Young. Forehead, eyebrow, and nuchal patch very distinct;

upper surface of body olive-green; wing-coverts as in the adult, but more mixed with reddish brown; quills as in the adult, but the inner secondaries more decided olive-green; middle of back dull reddish brown; tail for the most part ultramarine, all the feathers edged with olive-green, except the two middle ones, which are entirely of this colour; under surface of body dull greyish brown, becoming reddish on the flanks, all the white stripes very broad and distinct and having a very slight greenish lustre. Total length 11·5 inches, culmen 1·3, wing 7, tail 5·5, tarsus 0·8.

The Senegambian birds, true *C. nævia*, are somewhat different from those from North-eastern Africa. They have a slight shade of greyish olive at the end of the feathers of the crown, which is otherwise reddish. I have, however, not seen enough specimens to enable me to judge whether these slight differences are constant, and the bird from the Niger will also require comparison.

Hab. North-eastern Africa to Shoa and Equatorial Africa, and south to the Ulu country; Senegambia and the Niger region on the West Coast.

a. Ad. st.	N.E. Africa.	Purchased.
b. ♂ ad. sk.	Near Undel Wells, Abyssinia, April.	W. T. Blanford, Esq. [P.].
c. ♂ ad. sk.	Koomayli, March (*W. Jesse*).	Tweeddale Coll.
d. ♀ ad. sk.	Maragaz, Bogos-Land, July (*W. Jesse*).	Tweeddale Coll.
e. ♀ ad. sk.	Kokai, Bogos, July.	W. T. Blanford, Esq. [P.].
f. ♂ ad. sk.	Kokai, July (*W. Jesse*).	Salvin-Godman Coll.
g. Ad. sk.	Anseba River (*Esler*).	Shelley Coll.
h. ♂ ad. sk.	Efat, Shoa, April (*Sir W. C. Harris*).	India Museum.
i. ♀ ad. sk.	Alia Amba, Feb. (*W. C. H.*).	India Museum.
k. ♀ ad. sk.	Muggi, Oct. 28 (*Emin Pasha*).	Shelley Coll.
l. Ad. sk.	River Gambia.	Sharpe Coll.
m. Ad. sk.	River Gambia (*Sir A. Moloney*).	Shelley Coll.

9. Coracias olivaceiceps *.

Coracias pilosa (*nec Lath.*), *Gurney, P. Z. S.* 1864, p. 2, 1868, p. 461; *Chapm. Trav. S. Afr.* ii. App. p. 408 (1868); *Sharpe, P. Z. S.* 1869, p. 569.

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* For the last twelve months the name of *C. olivaceiceps* has been attached to the South-African form of *C. nævia* in the MSS. of the present volume of the 'Catalogue.' In the meantime Mr. Dresser has described the species as *C. mosambicus*, and I should gladly have adopted his name if there had been any proof forthcoming of the occurrence of this Roller in Mozambique: but the *Coracias nævia* of Bianconi's work has been shown by Drs. Finsch and Hartlaub to be only *C. caudata* (Vög. Ostafr. p. 154). I therefore employ my own designation for the species until it is proved that the name of *mosambicus* can be properly applied to it.

Coracias nuchalis (*nec Swains.*), *Layard, B. S. Afr.* p. 60 (1867); *Chapm. Trav. S. Afr.*, App. p. 408 (1868).
Coracias nævia (*nec Daud.*), *Sharpe, Ibis*, 1871, p. 190; *Gurney in Anderss. B. Dam.-Ld.* p. 54 (1872); *Buckley, Ibis*, 1874, p. 363; *Bocage, Orn. Angola*, p. 83 (1881); *Sharpe in Oates' Matabele-Land*, p. 302 (1881); *id. ed. Layard's B. S. Afr.* pp. 103, 805; *Shelley, Ibis*, 1882, p. 243; *Ayres, Ibis*, 1886, p. 284; *Symonds, Ibis*, 1887, p. 327.
Coracias nævia levaillanti (*nec Temm.*), *Shelley, Ibis*, 1885, p. 399.
Coracias mosambica, *Dresser, Ibis*, 1890, p. 385.

Adult male. Similar to *C. nævia*, but larger, with a larger bill, and having the crown olive like the back, instead of being lilac-red; the throat also is washed with dull purplish, which causes it to contrast with the rest of the under surface, which is lilac-red: "bill black; feet dull greenish yellow; iris ashy brown" (*T. Ayres*). Total length 14 inches, culmen 1·8, wing 7·5, tail 5·5, tarsus 0·9.

Adult female. Similar to the male. Total length 13 inches, culmen 1·6, wing 7·2, tail 5·7, tarsus 1·05.

Hab. South Africa, from the Orange River to the Zambesi on the east and to Angola on the west.

a. Ad. sk.	South Africa (*E. L. Layard*).	Sharpe Coll.
b. Ad. sk.	Orange Free State.	A. Sharpe, Esq. [P.].
c. ♂ ad. sk.	Transvaal (*T. Ayres*).	Sharpe Coll.
d. ♀ ad. sk.	Transvaal, July (*T. E. Buckley*).	Shelley Coll.
e. ♂ ad. sk.	Rustenberg, June 24 (*T. Ayres*).	Gurney Coll.
f. ♂ ad. sk.	Matabele-Land, Sept. (*T. E. Buckley*).	Shelley Coll.
g. ♂ ad. sk.	2nd Makalaka Kraal, Sept. (*F. Oates*).	W. E. & C. G. Oates, Esqrs. [P.].
h. Ad. sk.	Otjimbinque, Damara-Land (*C. J. Andersson*).	Tweeddale Coll.
i. ♀ ad. sk.	Otjimbinque, March (*C. J. Andersson*).	Sharpe Coll.
k. Juv. sk.	Ondonga, Ovampo, Jan. (*C. J. A.*).	Sharpe Coll.
l. ♂ ad. sk.	Caconda, Benguela, June (*J. Anchieta*).	Shelley Coll.
m. ♂ imm. sk.	Ambriz, Angola, Feb. (*J. J. Monteiro*).	Sharpe Coll.

10. Coracias temminckii.

Le Rollier Temminck, *Levaill. Ois. Parad. Rolliers*, iii. *Suppl.* p. 46. fig. G (1806).
Galgulus temminckii, *Vieill. N. Dict.* xxix. p. 435 (1819).
Rollier d'Urville, *Quoy et Gaim. Voy. Astrol., Atlas*, pl. 16.
Coracias papuensis, *Quoy et Gaim. op. cit. Zool.* i. p. 220 (1830).
Coracias pileata, *Bp. Consp. Vol. Anis.* p. 7 (1854, *ex Reinw. MSS.*).
Eurystomus pileatus, *Gray, P. Z. S.* 1860, p. 316.

Coracias temmincki, *Wall. Ibis*, 1864, p. 41; *Schl. Mus. Pays-Bas*, Coraces, p. 138 (1867); *Gray, Hand-l. B.* i. p. 75, no. 899 (1869); *Walden, Trans. Z. S.* viii. p. 43 (1872); *Meyer, Ibis*, 1879, p. 59; *Salvad. Orn. Papuasia, etc.* i. p. 512 (1880); *Blasius, Zeitschr. ges. Orn.* ii. p. 242 (1885), iii. p. 88 (1886).

Adult male. Above olive-green washed with lighter green; lower back and rump purplish blue; upper tail-coverts bright silvery cobalt; wings and tail purplish blue, the inner secondaries washed with olive-green like the back; crown of head and nape bright cobalt, with a slight greenish shade; lores, sides of face, sides of neck, and a broad collar round the hind neck black with a purplish wash; under surface of body dark purplish blue, with a white chin-spot, the throat and chest having the feathers mesially streaked with lighter purplish blue; under wing-coverts, axillaries, and quill-lining bright purplish blue: "bill black; feet yellowish brown; iris clear hazel-brown" (*Dr. Platen*). Total length 14·5 inches, culmen 1·6, wing 7·35, tail 5·5, tarsus 0·85.

Adult female. Similar to the male in colour. Total length 13 inches, culmen 1·6, wing 7·2, tail 5·6, tarsus 0·9.

Hab. Celebes.

a, b. Ad. et juv. sk.	Menado.	Wallace Coll.
c. Ad. st.	Makassar.	Wallace Coll.
d, e. ♂ ad. sk.	Celebes (*Mus. Lugd.*).	Salvin-Godman Coll.
f. Ad. sk.	Celebes.	Tweeddale Coll.

11. Coracias cyanogaster.

Le Rollier à ventre bleu, *Levaill. Ois. Parad. Rolliers*, p. 78, pl. 26 (1806).

Coracias cyanogastra, *Cuv. Règne Anim.* i. p. 401 (1817); *Wagl. Syst. Av.* Coracias, no. 6 (1827); *Jard. & Selby, Ill. Orn.* iii. pl. cxxiii. (c. 1830); *Swains. B. W. Afr.* ii. p. 108, pl. xiii. (1837); *Gray, Gen. B.* i. p. 62 (1845); *id. Cat. Fissir. Brit. Mus.* p. 34 (1848); *Bp. Consp. Av.* i. p. 167 (1850); *Reichenb. Handb., Merop.* p. 48, Taf. 432. figs. 3683–84 (1852); *Hartl. Orn. Westafr.* p. 30 (1857); *Cab. & Heine, Mus. Hein.* Th. ii. p. 116 (1860); *Hartl. J. f. O.* 1861, p. 104; *Schl. Mus. Pays-Bas*, Coraces, p. 136 (1867); *Bocage, Jorn. Lisb.* 1867, p. 133; *Gray, Hand-l. B.* i. p. 76 (1869); *Sharpe, Ibis*, 1871, p. 202.

Galgulus cyanogaster, *Vieill. N. Dict. d'Hist. Nat.* xxix. p. 436 (1819).

Coraciura cyanogastra, *Bp. Consp. Volucr. Anis.* p. 7 (1854).

Adult. Head, neck, and breast pale fawn-colour, everywhere pervaded with a silvery green lustre, so that the ground-colour is not perceptible; chin, an obsolete eyebrow, and longitudinal streaks on the throat hoary white; upper portion of the back and scapulars deep olive-brown; wing-coverts vivid ultramarine, the least ones round the carpal joint beautiful silvery cobalt; quills black, glossed above and below with ultramarine, the basal half of the primaries and also of the outer secondaries silvery cobalt, forming a con-

spicuous broad alar bar; innermost secondaries olive-brown like the scapulars, with which they imperceptibly blend; lower portion of back, rump, and upper tail-coverts brilliant ultramarine, the latter slightly tinged with a cobalt lustre; tail brilliant cobalt, more especially on the under surface, the shafts black, and the two outer tail-feathers elongated, the ends being black glossed with blue, all the tail-coverts being barred indistinctly in some lights; lower part of the breast, belly, and under tail-coverts deep ultramarine-blue, with a faint cobalt lustre on the latter; thighs also ultramarine, but brilliant cobalt on the inner side of the leg, just above the tarsal joint; under wing-coverts and axillaries brilliant cobalt. Total length 15 inches, culmen 1·45, wing 7·5, tail 7·3, tarsus 1.

Hab. Senegambia.

a. ♂ ad. sk.	Senegal (*d'Einville*).	Riocour Coll.
b. Ad. sk.	Senegambia.	Purchased.
c, *d*. Ad. sk.	River Gambia.	Sharpe Coll.
e. Ad. sk.	River Gambia (*Sir A. Moloney*).	Shelley Coll.
f, *g*, *h*. Ad. sk.	Dakar, Jan. (*L. Laglaize*).	Tweeddale Coll.

5. EURYSTOMUS.

	Type.
Eurystomus, *Vieill. Analyse*, p. 37 (1816)	E. orientalis.
Colaris, *Cuv. Règne Anim.* i. p. 401 (1817)	E. orientalis.
Cornopio, *Cab. & Heine, Mus. Hein.* Th. ii. p. 119 (1860)	E. afer.

Range. The whole of tropical Africa and Madagascar. India and Ceylon through the Burmese countries north to Manchuria and Northern China; south through the Burmese countries, and all over the Malay Archipelago to Australia.

Key to the Species.

a. Tail light blue, with a black terminal band and black shaft; underparts lilac or cinnamon-brown like the back.
  a'. Under tail-coverts greenish blue; no blue throat-patch.
    a''. Larger: wing 8·3 inches ..... *glaucurus*, p. 29.
    b''. Smaller: wing not exceeding 7·5 inches . *afer*, p. 30.
  b'. Under tail-coverts cinnamon like the breast; a large patch of greenish cobalt on the throat ..... *gularis*, p. 32.
b. Tail black, bluish at base only or shaded with purplish blue.
  c'. Throat streaked with bright purplish blue, forming a gular patch.
    c''. With a black tip to the culmen.
      a'''. Terminal half of tail black, not shaded with purplish blue above; head blackish, as also the mantle; shorter secondaries black, or with only a marginal shade of purplish blue ..... *orientalis*, p. 33. / *lætior*, p. 36.

b'''. Terminal half of tail black, distinctly shaded with purplish blue; secondaries black, externally shaded with purplish blue like the tail.
*a*⁴. Head and mantle pale greenish brown; under surface of body pale greenish blue; base of tail greenish blue .... *australis*, p. 36.
*b*⁴. Head and mantle blackish; under surface of body blue.
*a*⁵. Smaller: wing 7·4 inches ..... *calonyx*, p. 38.
*b*⁵. Larger: wing 7·9 inches ..... *crassirostris*, p. 39.
d''. Bill entirely red, with no black tip to the culmen; wing 7·7–7·9 inches ..... *solomonensis*, p. 40.
d'. Entire under surface of body purplish blue, with no bright gular patch ..... *azureus*, p. 40.

1. Eurystomus glaucurus.

Le Rollier de Madagascar, *Montb. Hist. Nat. Ois.* iii. p. 148 (1775).
Le Rolle de Madagascar, *Daubent. Pl. Enl.* iii. pl. 501.
Coracias glaucurus, *P. L. S. Müller, S. N.* Anhang, p. 86 (1776); *Cass. Proc. Philad. Acad.* 1864, p. 242.
Madagascar Roller, *Lath. Gen. Syn.* i. pt. 1, p. 413 (1781).
Coracias orientalis (*nec L.*), *Bodd. Tabl. Pl. Enl.* p. 29 (1783).
Coracias madagascariensis, *Herm. Tabl. Affin. Anim.* p. 197 (1783); *Gm. S. N.* i. p. 379 (1788).
Le Grand Rolle Violet, *Levaill. Ois. Parad. Rolliers*, p. 96, pl. 34 (1806).
Colaris madagascariensis, *Cuvier, Règne Anim.* p. 401 (1817); *Reichenb. Handb., Merop.* p. 56, Taf. 428. fig. 3200 (1852).
Eurystomus violaceus, *Vieill. N. Dict. d'Hist. Nat.* xxix. p. 426 (1819).
Colaris violaceus, *Wagl. Syst. Av.* Colaris, sp. 1 (1827).
Eurystomus madagascariensis, *Gray, Gen. B.* i. p. 62 (1845); *Bp. Consp.* i. p. 168 (1850); *id. Consp. Volucr. Anis.* p. 7 (1854); *Hartl. Faun. Madag.* p. 27 (1861); *Roch & E. Newt. Ibis*, 1862, p. 270, 1863, p. 176; *E. Newt. Ibis*, 1863, p. 341; *Schl. Mus. Pays-Bas*, Coraces, p. 143 (1867); *Grand. Rev. et Mag. de Zool.* 1867, p. 354; *Schl. & Poll. Faun. Madag., Ois.* p. 103 (1868); *Hartl. Vög. Madag.* p. 67 (1877).
Cornopio madagascariensis, *Cab. & Heine, Mus. Hein.* Th. ii. p. 119 (1860).
Eurystomus glaucurus, *Gray, Hand-l. B.* i. p. 76, no. 910 (1869); *Sharpe, P. Z. S.* 1870, p. 397; *id. Ibis*, 1871, p. 271; *Milne-Edw. & Grand. H. N. Madag., Ois.* i. p. 214, pls. 80, 81, 82 (1879).

Adult. General colour cinnamon; lesser wing-coverts skirting the edge of the wing and the greater series deep ultramarine, the remainder like the back; quills black, washed externally with ultramarine, the inner web cobalt on the under surface, the secondaries dusky at the base, the innermost ones lilac-brown like the scapulars; lower portion of the rump and upper tail-coverts dull cobalt; tail for the most part pale cobalt-blue, with a broad band of black at the tip shaded with purplish blue; under surface of body cinnamon glossed with lilac; lower abdomen and under tail-coverts greenish

blue; thighs lilac-brown washed with blue: "bill yellow; feet greenish yellow; iris brown" (*A. Grandidier*). Total length 12 inches, culmen 1·15, wing 8·2, tail 4·7, tarsus 0·6.

Young. Much duller in colour than the adults, inclining to rufous-brown on the upper surface and on the throat; the rest of the under surface from the fore neck downwards washed with greenish blue.

Hab. Madagascar, and Anjuan Island.

a. Ad. sk.	Madagascar.	A. Crossley [C.].
b. Ad.; *c*, *d*. Juv. sk.	Madagascar.	Sharpe Coll.
e. ♂ ad. sk.	Madagascar, Oct. 13 (*Pollen and Van Dam*).	Tweeddale Coll.
f, *g*. Ad.; *h*. Juv. sk.	N.E. Madagascar (*Van Dam*).	Shelley Coll.
i. Ad. sk.	Anjuan Island (*Sir John Kirk*).	Shelley Coll.
k. Skeleton.		M. Verreaux.

2. Eurystomus afer.

African Roller, *Lath. Gen. Syn. Suppl.* i. p. 86 (1787).

Coracias afra, *Lath. Ind. Orn.* i. p. 172 (1790).

Coracias africana, *Shaw & Nodder, Nat. Misc.* xi. pl. 401 (1799).

Le Petit Rolle violet, *Levaill. Ois. de Parad., Rolliers*, pl. 35 (1806).

Colaris afra, *Cuv. Règne Anim.* i. p. 401 (1817); *Reichenb. Handb., Merop.* p. 56, Taf. 438. figs. 3201, 3202 (1852).

Eurystomus purpurascens, *Vieill. N. Dict. d'Hist. Nat.* xxix. p. 427 (1819); *Bp. Consp. Volucr. Anis.* p. 7 (1854).

Eurystomus rubescens, *Vieill. N. Dict.* xxix. p. 426 (1819); *Swains. B. W. Afr.* ii. p. 112 (1837).

Eurystomus afra, *Steph. Gen. Zool.* xiii. p. 97 (1826); *Gray, Gen. B.* i. p. 62 (1845); *Bp. Consp.* i. p. 168 (1850); *Antin. Cat. descr. Ucc.* p. 27 (1865).

Colaris purpurascens, *Wagler, Syst. Av.* Colaris, sp. 2 (1827).

Colaris viridis, *Wagler, op. cit.* sp. 5 (1827); *Reichenb. Handb., Merop.* p. 57 (1852).

Eurystomus orientalis (*nec L.*), *Rüpp. Syst. Uebers.* p. 23 (1845); *Heugl. Syst. Uebers.* p. 17 (1856).

Eurystomus viridis, *Gray, Gen. B.* i. p. 62 (1845); *Bp. Consp.* i. p. 168 (1850).

Eurystomus afer, *Gray, Cat. Fissir. Brit. Mus.* p. 32 (1848); *Strickl. P. Z. S.* 1850, p. 216; *Bp. Consp. Volucr. Anis.* p. 7 (1854); *Verr. Rev. et Mag. de Zool.* 1855, p. 414; *Hartl. Orn. W.-Afr.* p. 28 (1857); *Cass. Proc. Philad. Acad.* 1859, p. 33; *Hartl. J.f. O.* 1861, p. 104; *Kirk, Ibis*, 1864, p. 324; *Schl. Mus. Pays-Bas*, Coraces, p. 142 (1867); *Heugl. Orn. N.O.-Afr.* i. pt. i. p. 169 (1869); *Gray, Hand-l. B.* i. p. 76, no. 911 (1869); *Sharpe, Ibis*, 1869, p. 193; *id. P. Z. S.* 1869, p. 569; *Blanf. Geol. & Zool. Abyss.* p. 320 (1870); *Finsch, Trans. Z. S.* vii. p. 220 (1870); *Sharpe, Ibis*, 1871, p. 274; *Shelley & Buckley, Ibis*, 1872, p. 286; *Ussher, Ibis*, 1874, p. 48; *Reichen. J.f. O.* 1875, p. 14; *Sharpe & Bouvier, Bull. Soc. Zool. France*, i. pp. 39, 303 (1876); *Reichen. J.f. O.* 1877, p. 2; *Ayres, Ibis*, 1877, p. 342; *Cab. J.f. O.* 1878, p. 234; *Fischer & Reichen. J.f. O.* 1879, p. 343; *Oust. N. Arch. Mus.* (2) ii. *Bull.* p. 71 (1879); *Bocage, Orn. Angola*, p. 85 (1881); *Gurney, Ibis*, 1881, p. 124;

Sharpe in Oates' Matabele-Land, App. p. 302 (1881); *Hartl. Abhandl. nat. Ver. Bremen*, vii. p. 110 (1881); *Shelley, P. Z. S.* 1881, p. 565; *Pelz. Sitz. z.-b. Ges. Wien*, xxxi. p. 143 (1881), xxxii. p. 500 (1882); *Shelley, Ibis*, 1882, p. 243; *Schalow, J. f. O.* 1883, p. 349; *Sharpe, Journ. Linn. Soc.* xiii. p. 434 (1884); *Fischer, Zeitschr. ges. Orn.* i. p. 359 (1884); *Böhm, J. f. O.* 1885, p. 57; *Fischer, t. c.* p. 127; *Shelley, P. Z. S.* 1885, p. 224; *Büttik. Notes Leyden Mus.* vii. p. 158 (1885), viii. p. 248 (1886); *Hartert, J. f. O.* 1886, p. 592; *Matschie, J. f. O.* 1887, p. 152; *Schalow, t. c.* p. 236; *Reichen. t. c.* p. 305; *Büttik. Notes Leyden Mus.* x. p. 62 (1888); *Tristr. Ibis*, 1888, p. 266; *Shelley, t. c.* p. 298; *id. P. Z. S.* 1888, p. 44; *id. Ibis*, 1890, p. 167.

Cornopio afer, *Cab. & Heine, Mus. Hein.* Th. ii. p. 119 (1860); *Cab. in Von der Decken's Reis.* iii. p. 34 (1869).

Adult. Similar to *E. glaucurus*, but much smaller: "bill yellow; feet and iris brown" (*T. Ayres*). Total length 9·5 inches, culmen 0·9, wing 6·8, tail 3·45, tarsus 0·6.

Young. Similar to the adult, but having the under surface washed with pale greenish blue from the breast downwards, the lower flanks being entirely blue; wing-coverts pale greyish brown, and all the rest of the plumage much paler than in the adult.

Although *E. afer* is a conspicuously smaller bird as a rule than *E. glaucurus*, yet the former bird varies considerably with locality, and in the British Museum series the wing varies from 6·4 inches to 7·1 inches, those from the West Coast being decidedly smaller than the ones from Eastern Africa.

Hab. Nearly the whole of tropical Africa.

a. ♂ ad. sk.	Senegambia (*d'Einville*).	Riocour Coll.
b. Ad. sk.	Daranka, Gambia (*L. Laglaize*).	Shelley Coll.
c. Ad. sk.	Gambia (*Sir A. Moloney*).	Shelley Coll.
d. Ad. st.	Gold Coast.	Leyden Mus.
e–h. Ad. et imm. sk.	Accra, Feb., April (*H. T. Ussher & J. Smith*).	Sharpe Coll.
i. Imm. sk.	Fantee.	Sharpe Coll.
k, l. ♂ ♀ ad. sk.	Abo Kobi, Aguapim, Feb. (*G. E. S.*).	Shelley Coll.
m. Ad. sk.	Shonga, River Niger.	Capt. M. Ferryman [P.].
n, o. Ad. sk.	Gaboon (*H. T. Ansell*).	Sharpe Coll.
p. Imm. sk.	Congo.	Commander Sperling [P.].
q. Ad. sk.	Landana, Congo (*L. Petit*).	Shelley Coll.
r. ♂ ad. sk.	Potchefstroom, Transvaal, Nov. 26 (*T. Ayres*).	Gurney Coll.
s. ♂ ad. sk.	Umvungu River, Nov. 3 (*F. Oates*).	W. E. & C. G. Oates, Esqrs. [P.].
t. Ad. sk.	Umvuli River, Oct. (*J. S. Jameson*).	Shelley Coll.
u. Ad. sk.	Zambesi River (*Dr. Meller*).	Sharpe Coll.
v. Ad.; *w.* Juv. sk.	Zambesi River.	Dr. Bradshaw [C.].
x. ♂ ad. sk.	Duruma, E. Africa, Jan.	Dr. Hildebrandt [C.].

y. Ad.; *z*. Juv. sk.	Usambara Mountains (*Sir J. Kirk*).	Shelley Coll.
a'. Ad. sk.	Dar-es-Salaam (*E. C. Buxton*).	Shelley Coll.
b', *c'*. Ad. sk.	Mombasa.	Rev. A. F. Buxton [P.].
d'. Ad. sk.	Mombasa, Feb.	F. J. Jackson, Esq. [P.].
e', *f'*. ♂ ad. sk.	Kilimanjaro, 3000 feet.	H. H. Johnston, Esq. [C.].
g'. ♀ ad. sk.	Tingasi, Equatorial Africa, July 16.	Emin Pasha [P.].
h'. ♀ ad. sk.	Kutschugali, Niam-Niam, Sept.	F. Bohndorff [C.].
i'. Ad. sk.	Barka (*Esler*).	Sharpe Coll.
k', *l'*. ♂ ♀ ad. sk.	Kokai, Lebka River, July.	W. T. Blanford, Esq. [C.].
m'. ♂ ad. sk.	Kokai, July 12 (*W. Jesse*).	Seebohm Coll.

3. Eurystomus gularis.

Le Petit Rolle violet à gorge bleue, *Levaill. Ois. de Parad. Rolliers*, pl. 36 (1806).

Eurystomus gularis, *Vieill. N. Dict. d'Hist. Nat.* xxix. p. 246 (1819); *Jard. & Selby, Ill. Orn.* ii. pl. 409 (c. 1830); *Gray, Gen. B.* i. p. 62 (1845); *id. Cat. Fissir. Brit. Mus.* p. 33 (1848); *Bp. Consp.* i. p. 168 (1850); *id. Consp. Volucr. Anis.* p. 7 (1854); *Verr. Rev. et Mag. de Zool.* 1855, p. 415; *Hartl. Orn. W.-Afr.* p. 29 (1857); *Cass. Proc. Philad. Acad.* 1859, p. 33; *Hartl. J. f. O.* 1861, p. 104; *Schl. Mus. Pays-Bas*, Coraces, p. 143 (1867); *Gray, Hand-l. B.* i. p. 76, no. 909 (1869); *Sharpe, Ibis*, 1870, p. 484, 1871, p. 278; *Shelley & Buckley, Ibis*, 1872, p. 286; *Ussher, Ibis*, 1874, p. 49; *Reichen. J. f. O.* 1875, p. 14; *Scl. Ibis*, 1876, p. 247; *Oust. N. Arch. Mus.* (2) ii. p. 130 (1879); *Büttik. Notes Leyden Mus.* vii. p. 159 (1865).

Colaris gularis, *Wagler, Syst. Av.* Colaris, sp. 3 (1827); *Reichenb. Handb., Merop.* p. 57, Taf. 438. fig. 3203 (1852).

Eurystomus collaris, *Vig. Zool. Journ.* v. p. 273 (1832).

Cornopio gularis, *Cab. & Heine, Mus. Hein.* Th. ii. p. 119, note (1860).

Adult. Similar to *E. glaucurus*, but smaller, and of about the same size as *E. afer*. It differs from both species, however, in having black upper tail-coverts, cinnamon under tail-coverts like the abdomen, and a large patch of greenish cobalt on the throat: "bill horn-brown, yellow at base; feet greyish brown; iris dark" (*A. Reichenow*). Total length 9·5 inches, culmen 1, wing 5·9, tail 3·4, tarsus 0·6.

Hab. West Africa, from Liberia to Gaboon.

a. Ad. sk.	Sierra Leone.	Tweeddale Coll.
b. Ad. st.	Gold Coast.	Leyden Museum.
c. Ad. sk.	Fantee (*H. F. Blissett*).	Sharpe Coll.
d. Ad. sk.	Wasa Province, March (*H. F. B.*).	Sharpe Coll.
e. Ad. sk.	Wasa.	Sir R. Burton & Capt. Cameron [P.].
f, *g*, *h*. Ad. sk.	Denkera (*H. T. Ussher*).	Shelley Coll.
i. Ad. sk.	Gaboon (*Walker*).	Sharpe Coll.

4. **Eurystomus orientalis.** (Plate II. fig. 1.)

Le Rollier des Indes, *Briss. Orn.* ii. p. 75, pl. 7. fig. 2 (1760); *Daubent. Pl. Enl.* iii. pl. 619; *Montb. Nat. Hist. Ois.* iii. p. 147 (1775).

Coracias orientalis, *Linn. S. N.* i. p. 159 (1766); *Gm. S. N.* i. p. 379 (1788); *Raffl. Trans. Linn. Soc.* xiii. p. 302 (1820).

Oriental Roller, *Lath. Gen. Syn.* i. p. 411 (1781).

Le Rolle à gorge bleue, *Levaill. Ois. de Parad. Rolliers*, p. 183, pl. 36 (1806).

Eurystomus orientalis, *Steph. in Shaw's Gen. Zool.* vii. p. 403 (1809); *Swains. An. in Menag.* p. 326 (1837); *Gray, Gen. B.* i. p. 62 (1845); *Bp. Consp.* i. p. 168 (1850); *Reichenb. Handb., Merop.* p. 54, Taf. 437. figs. 3195, 3196, 3197 (1852); *Moore, P. Z. S.* 1854, p. 267; *Horsf. & Moore, Cat. B. Mus. E.I. Co.* i. p. 121 (1854); *Cab. & Heine, Mus. Hein.* Th. ii. p. 120 (1860); *Pelz. Reis. Novara, Vög.* p. 42 (1865); *Schl. Mus. Pays-Bas*, Coraces, p. 139 (1867, pt.); *Gray, Hand-l. B.* i. p. 76, no. 906 (1869); *Blanford, Ibis*, 1870, p. 465; *Elliot, Ibis*, 1871, p. 204 (pt.); *Walden & Layard, Ibis*, 1872, p. 100; *Walden, Ibis*, 1873, p. 108; *Ball, Str. F.* i. p. 57 (1873); *Hume, Str. F.* ii. p. 164 (1874); *Walden, Trans. Z. S.* ix. p. 152 (1875); *Salvad. Ucc. Born.* p. 105 (1874); *Blyth & Wald. B. Burm.* p. 72 (1875); *Sharpe, Ibis*, 1877, p. 7; *Wardlaw Ramsay, t. c.* p. 457; *Hume & Davison, Str. F.* vi. p. 72 (1878); *Tiraut, Ois. Basse-Cochinchine*, p. 99 (1879); *Sharpe, Ibis*, 1879, p. 240; *id. P. Z. S.* 1879, p. 332; *Hume, Str. F.* viii. p. 85 (1879); *Bingham, t. c.* p. 193; *id. op. cit.* ix. p. 153 (1880); *Salvad. Orn. Papuasia*, i. p 508 (1880); *Kelham, Ibis*, 1881, p. 373; *Sharpe, P. Z. S.* 1881, p. 793; *Nichols. Ibis*, 1882, p. 67; *Oates, Handb. B. Brit. Burm.* ii. p. 70 (1883); *Snellem. in Veth's Midden-Sumatra, Vög.* p. 37 (1885); *Büttik. Notes Leyden Mus.* ix. p. 41 (1887); *Hume, Str. F.* xi. p. 43 (1888); *Sharpe, Ibis*, 1888, p. 197; *Blasius, Ornis*, 1888, p. 579; *Sharpe, Ibis*, 1889, p. 21; *Whitehead, t. c.* p. 45; *Salvad. Agg. Orn. Papuasia*, p. 60 (1889); *Sharpe, Ibis*, 1890, p. 21; *id. P. Z. S.* 1890, p. 550; *Steere, List B. & Mamm. Philipp.* p. 9 (1890); *Oates, ed. Hume's Nests & Eggs Ind. B.* iii. p. 57 (1890, pt.).

Colaris orientalis, *Cuv. Règne Anim.* i. p. 401 (1817); *Horsf. Trans. Linn. Soc.* xiii. p. 162 (1820).

Eurystomus cyanicollis, *Vieill. t. c.* p. 425 (1819); *id. Gal. Ois.* i. p. 176, pl. iii. (1825); *Bp. Consp.* i. p. 188 (1850).

Eurystomus fuscicapillus, *Vieill. N. Dict. d'Hist. Nat.* xxix. p. 426 (1819).

Colaris cyanicollis, *Wagl. Syst. Av.* Colaris, sp. 4 (1827).

Colaris garrula (*nec L.*), *Guérin-Ménev. Iconogr. Règne Anim.* pl. 22. fig. 2 (1829–38).

Eurystomus pacificus (*nec Lath.*), *Motl. & Dillw. N. H. Labuan*, p. 11 (1855).

Adult male. General colour above bluish green, with an oily-green shade on the mantle and upper back; lesser wing-coverts like the back, the median and greater coverts brighter and more greenish cobalt; bastard-wing and primary-coverts purplish blue, fringed and tipped with green; quills black, the primaries with a large patch of silvery cobalt near the base, the inner secondaries green like the back; upper tail-coverts like the back; tail-feathers black, externally washed with purplish blue for half the distance, greenish blue near

the extreme base of the centre feathers; the terminal half of the tail black *; crown of head sooty black, with a slight greenish wash; lores, sides of face, ear-coverts, cheeks, and chin black, the cheeks and hinder ear-coverts washed with green like the sides of the neck; throat purplish blue, with mesial streaks of paler and more cobalt-blue; fore neck and remainder of under surface of body greenish blue, more decidedly green on the fore neck and chest; under wing-coverts and axillaries also greenish blue: "bill, legs, and feet deep vermilion; tip of bill black; iris dark brown; gape yellowish" (*E. W. Oates*). Total length 11 inches, culmen 1·1, wing 7·5, tail 3·8, tarsus 0·7.

Adult female. Similar to the male in colour. Total length 10·5 inches, culmen 1·1, wing 7·2, tail 3·9, tarsus 0·65.

Young. Differs from the adult in being duller in colour and in having a black bill, and in wanting the bright blue patch on the throat, which is greenish, a little duller than the abdomen.

Hab. Islands of Bay of Bengal; Burmese countries north to Cachar, down the Malayan Peninsula to Java, Sumatra, Borneo, and the Philippines.

a, b, c. ♂ ad.; *d, e.* ♀ ad. sk.	Port Blair, S. Andamans, Aug. (*W. Davison*).	Hume Coll.
f. ♂ ad.; *g.* ♀ juv. sk.	Port Blair, June, Aug. (*R. J. Wimberley*).	Dr. R. B. Sharpe [P.].
h. ♂ ad.; *i, k.* ♀ imm. sk.	Port Blair, July, Aug. (*R. J. W.*).	Tweeddale Coll.
l, m. ♂ ad.; *n.* ♀ ad. sk.	Port Mouat, Jan., April (*W. Davison*).	Hume Coll.
o, p, q. ♂ ad.; *r.* ♀ juv. sk.	Mount Harriet, Dec. (*W. D.*).	Hume Coll.
s. Ad. sk.	Nicobar Islands.	Tweeddale Coll.
t. Ad. sk.	Cachar (*J. Inglis*).	Hume Coll.
u. Ad. sk.	Bassein, Pegu.	W. T. Blanford, Esq. [P.].
v. ♂ ad. sk.	Zanee River, Tenasserim, Feb. (*C. T. Bingham*).	Hume Coll.
w. ♀ ad. sk.	Mergui, Jan. (*W. Davison*).	Hume Coll.
x. ♂ ad. sk.	Bopyin, Dec. 19 (*W. D.*).	Hume Coll.
y. ♀ ad. sk.	Pakchan, Jan. 21 (*W. D.*).	Hume Coll.
z. ♀ ad. sk.	Choungthanoung, Dec. 25 (*W. D.*).	Hume Coll.
a'. ♀ ad. sk.	Assoon, Feb. 5 (*W. Limborg*).	Tweeddale Coll.
b', c', d'. ♂ ad.; *e'.* ♀ ad. sk.	Bankasoon, Dec., Feb. (*W. D.*).	Hume Coll.

* Mr. Dresser (Ibis, 1891, p. 101) has given elaborate measurements to show the amount of variation in the blue on the tail in *E. orientalis* and *E. calonyx*, which he unites together as one species. These observations were made on the series in the Tweeddale collection. The Tweeddale series having now been sent to the Museum by Mr. Dresser, I find it impossible to agree with his conclusions, for the distinctness of *E. orientalis* and *E. calonyx* is amply confirmed by the specimens. The difficulty lies in the separation of *E. orientalis* from *E. australis*, for both forms occur in Celebes, and specimens from other localities also appear to be intermediate.

f', *g'*. ♂ ad.; *h'*, *i'*. ♀ ad. sk.	Malewoon, Jan., Feb., April (*W. D.*).	Hume Coll.
k', *l'*. ♂ ad.; *m'*. ♀ ad. sk.	Malewoon, Dec., Feb.	Oates Coll.
n', *o'*. ♂ ♀ ad. sk.	Kossoum, April, May (*J. Darling*).	Hume Coll.
p', *q'*. ♂ ad. sk.	Salang, Feb. (*J. Darling*).	Hume Coll.
r'. Ad. sk.	Perak, Dec.	Dr. A. McKinlay [P.].
s'. Ad. sk.	Penang (*Dr. Cantor*).	India Museum.
t'. Ad. sk.	Penang.	Wallace Coll.
u', *v'*. ♂ ad.; *w'*. ♀ ad. sk.	Dingding Island, Feb., March (*W. Davison*).	Hume Coll.
x', *y'*, *z'*. ♂ ad. et juv.; *a''–d''*. ♀ ad. et juv. sk.	Klang, Jan., Feb., Oct., Nov. (*W. D.*).	Hume Coll.
e''. Ad. sk.	Malacca, July (*W. D.*).	Hume Coll.
f''. Ad. sk.	Malacca (*Dr. Maingay*).	Tweeddale Coll.
g''. Ad. sk.	Malacca (*Dr. Maingay*).	Seebohm Coll.
h'', *i''*. ♂ ♀ ad. sk.	Singapore Island, Dec., Feb. (*W. Davison*).	Hume Coll.
k'', *l''*. Ad. sk.	E. Java.	Wallace Coll.
m'', *n''*. Ad. sk.	Sumatra (*Raffles*).	India Museum.
o''. Ad. sk.	Billiton (*Walter*).	Tweeddale Coll.
p''. Ad. sk.	Borneo.	Rajah Brooke [P.].
q''. Ad. sk.	Labuan (*Sir H. Lowe*).	Dr. R. B. Sharpe [P.].
r''. ♀ ad. sk.	Puerto Princesa, Palawan, Nov. 29 (*A. H. Everett*).	Tweeddale Coll.
s'', *t''*. ♂ ♀ ad. sk.	Cebu, March, April (*A. H. E.*).	Tweeddale Coll.
u'', *v''*. ♂ ♀ ad. sk.	Amparo, S. Leyte, July, Aug. (*A. H. E.*).	Tweeddale Coll.
w''. ♀ ad. sk.	Ayala, Mindanao, Oct., Dec.	E. L. Moseley, Esq. [C.].
x''. Ad. sk.	Dumalon, Mindanao.	Prof. Steere [C.].
y''. Ad. sk.	Zamboanga.	Voy. H.M.S. 'Challenger.'
z'', *a*^{3}. ♂ ♀ ad. sk.	Butuan, May (*A. H. E.*).	Tweeddale Coll.
b^3. ♀ ad. sk.	Panaon, Sept. (*A. H. E.*).	Tweeddale Coll.
c^3. ♀ ad. sk.	Nipah Island, July (*A. H. E.*).	Tweeddale Coll.
d^3. ♂ ad. sk.	Dinagat, June (*A. H. E.*).	Tweeddale Coll.
e^3. ♂ ad. sk.	San Mateo, Luzon, Feb. (*A. H. E.*).	Tweeddale Coll.
f^3. ♀ ad. sk.	Bilukan, Luzon, Feb. (*A. B. Meyer*).	Tweeddale Coll.
g^3. ♂ ad. sk.	Cujo, Dec. (*A. B. M.*).	Tweeddale Coll.
h^3. ♂ ad. sk.	Guimaras, March (*A. B. M.*).	Tweeddale Coll.
i^3, *k*^{3}. ♂ ♀ ad. sk.	Guimaras, Dec., Jan.	E. L. Moseley, Esq. [C.].
l^3. ♂ ad. sk.	Negros, March (*L. C. Layard*).	Tweeddale Coll.
m^3. ♀ ad. sk.	Valencia, Aug. (*A. H. Everett*).	Tweeddale Coll.
n^3. ♂ ad. sk.	Basilan, May (*A. H. E.*).	Tweeddale Coll.
o^3, *p*^{3}. Ad. sk.	Sanghir Islands.	Tweeddale Coll.
q^3, *r*^{3}, *s*^{3}. Ad. sk.	Celebes.	Tweeddale Coll.

Subsp. *a*. Eurystomus lætior.

Eurystomus orientalis (*nec L.*), *Holdsw. P. Z. S.* 1872, p. 423; *Vipan, Str. F.* i. p. 495 (1873); *Morgan, Str. F.* ii. p. 531 (1874); *Hume, Str. F.* iv. p. 382 (1876); *Legge, B. Ceylon*, p. 285 (1878); *Davison, Str. F.* x. p. 351 (1883); *Oates, ed. Hume's Nests & Eggs Ind. B.* iii. p. 57 (1890, pt.).
Eurystomus lætior, *Sharpe, P. Z. S.* 1890, p. 551.

Adult. Similar to *E. orientalis*, and having the terminal half of the tail black, but differing in the very black head and in the intense blue colour of the underparts, so that the bird resembles *E. crassirostris* of New Guinea and the Papuan Islands: "bill deep orange-red, the tip of the upper mandible black; orbital skin red; tarsi and feet orange-red; feet duskier than the tarsus; iris hazel-brown" (*W. V. Legge*). Total length 11 inches, culmen 1·15, wing 7·8, tail 4, tarsus 0·65.

Hab. Southern India and Ceylon.

a. Ad. sk.	Ceylon.	T. Thwaites, Esq. [C.].
b. Ad. sk.	Ceylon.	Tweeddale Coll.
c. ♂ ad. sk.	Eridge, Travancore, Dec. 21.	F. Bourdillon, Esq. [C.].
d. ♂ ad. sk.	Asamboo Hills, Travancore, Aug. (*F. Bourdillon*).	Hume Coll.

5. Eurystomus australis.

? Pacific Roller, *Lath. Gen. Syn. Suppl.* ii. p. 371 (1801) *.
? Coracias pacifica, *Lath. Ind. Orn. Suppl.* p. xxvii (1791).
? Galgulus pacificus, *Vieill. N. Dict. d'Hist. Nat.* xxix. p. 435 (1819); *id. Enc. Méth.* ii. p. 870 (1823).
Eurystomus orientalis (*nec L.*), *Vig. & Horsf. Trans. Linn. Soc.* xv. p. 202 (1826); *Gray, P. Z. S.* 1860, p. 345; *Finsch, Neu-Guinea*, p. 160 (1865, pt.); *Schl. Mus. Pays-Bas*, Coraces, p. 139 (1867, pt.); *Walden, Trans. Z. S.* viii. p. 43 (1872); *Brüggem. Abhandl. nat. Ver. Bremen*, v. p. 49 (1876); *Meyer, Ibis*, 1879, p. 60; *id. Verh. z.-b. Ges. Wien*, xxxi. pp. 763, 769 (1881); *id. Sitz. N. Abhandl. Ges. Isis*, Abth. i. p. 5 (1884); *Guillem. P. Z. S* 1885, pp. 568, 629.
Eurystomus australis, *Swains. An. in Menag.* p. 326 (1827); *Reichenb. Vög. Neuholl.* p. 38 (1850).
Eurystomus pacificus, *Gray, Ann. & Mag. Nat. Hist.* xi. p. 190 (1843); *id. Gen. B.* i. p. 62 (1845); *id. Fissir. Brit. Mus.* p. 32 (1848); *Gould, B. Austr.* ii. pl. 17 (1843); *Bp. Consp.* i. p. 168 (1850); *Reichenb. Handb., Merop.* p. 55, Taf. 437. figs. 3198, 3199 (1852); *Gray, Cat. Mamm. etc. New Guin.* pp. 18, 54 (1859); *Cab. & Heine, Mus. Hein.* Th. ii. p. 120 (1860); *Wall, Ibis*, 1860, p. 147; *id. P. Z. S.* 1862, pp. 335, 349; *Rosenb. J. f. O.* 1864, p. 118; *Gould, Handb. B. Austr.* i. p. 119 (1865); *Pelz. Reis. Novara, Vög.* p. 42 (1865, pt.); *Ramsay, Ibis*, 1866, p. 327; *Scl. P. Z. S.* 1869, p. 121; *Gray, Hand-l. B.* i. p. 76, no. 907 (1869); *Elliot, Ibis*, 1871, p. 204; *Ramsay, P. Z. S.* 1875, p. 582; *Scl. Ibis*, 1876, p. 247; *Cab. & Reichen. J. f. O.* 1876, p. 323; *Salvad. & D'Albert. Ann. Mus. Genov.* xiv. p. 53 (1879); *Salvad. Orn. Papuasia etc.* i. p. 503

* This description is so inaccurate that it is impossible to identify it with the Australian Roller. Latham says:—"Head and neck *chestnut*; lower part of the neck from the *chestnut* downwards, &c."

(1880); *Forbes, P. Z. S.* 1884, pp. 426, 443; *Meyer, Sitz. N. Abhandl. Ges. Isis*, Abth. i. pp. 7, 10 (1884); *Büttik. Notes Leyden Mus.* vii. p. 62 (1886); *Meyer, Zeitschr. ges. Orn.* iii. p. 34 (1886); *Buller, B. New Zeal.* i. p. 118 (1888); *Ramsay, Tab. List Austr. B.* p. 3 (1888); *Salvad. Orn. Papuasia*, App. p. 60 (1889); *Tristr. Ibis*, 1889, p. 556.

Colaris pacificus, *Bp. Consp. Vol. Anis.* p. 7 (1854).

Eurystomus gularis (*nec V.*), *Beccari, Ann. Mus. Genov.* vii. p. 708 (1875).

Eurystomus crassirostris (*nec Scl.*), *D'Albert. Ann. Mus. Genov.* x. p. 12 (1877).

Adult. Similar to *E. orientalis*, but everywhere paler, especially on the upper surface, which is brownish on the mantle and back, slightly washed with green; the under surface of the body also is much greener; the outer webs of the tail-feathers blue nearly to the ends: "bill and feet red; inside of mouth yellow; iris dark brown" (*J. Gould*). Total length 10·5 inches, culmen 1·1, wing 7·85, tail 3·6, tarsus 0·6.

Hab. Australia, occasionally reaching to New Zealand. Throughout the Moluccas to Celebes.

a. Imm. sk.	New South Wales.	Hume Coll.
b, c. Ad. sk.	New South Wales (*J. T. Cockerell*).	Salvin-Godman Coll.
d. Ad. sk.	Clarence River, N. S. W.	Tweeddale Coll.
e. ♂ ad. sk.	North-east Australia, Nov. 13.	Sir T. Mitchell [P.].
f. Ad. sk.	S. Queensland.	Tweeddale Coll.
g, h. Ad. sk.	Queensland (*Cairns & Grant*).	Australian Museum [P.].
i. Ad. sk.	Fitzroy R., N.W. Australia (*T. H. Bowyer Bower*).	Capt. Bowyer Bower [P.].
k, l, m. Ad. sk.	Victoria R., N.W. Australia.	J. R. Elsey, Esq. [P.].
n. Ad. st.	Port Bowen, N.W. Australia.	J. B. Jukes, Esq. [P.].
o, p. Ad.; *q.* Imm. sk.	Australia.	Purchased.
r, s. ♂ ad. sk.	Dorey.	Wallace Coll.
t. ♂ ad. sk.	Aru Islands.	Wallace Coll.
u. ♂ ad. sk.	Ceram (*A. R. Wallace*).	Tweeddale Coll.
v. ♀ ad. sk.	N. Ceram (*A. R. W.*).	Seebohm Coll.
w. ♀ ad.; *x.* Juv. sk.	Ceram.	Wallace Coll.
y. ♂ ad. sk.	Amboina*, May 19 (*H. O. Forbes*).	Tweeddale Coll.
z, a'. Ad. sk.	Bouru.	Wallace Coll.
b'. ♂ ad. sk.	Ternate, April 12 (*Dr. Bernstein*).	Salvin-Godman Coll.
c'. ♂ ad. sk.	Ternate, May 16 (*Dr. Bernstein*).	Seebohm Coll.
d'. Ad. sk.	Gilolo.	Wallace Coll.
e'. Ad. sk.	Matabello.	Wallace Coll.
f'. ♂ ad. sk.	Gorontalo, Celebes, July 20 (*von Rosenberg*).	Salvin-Godman Coll.

* This is "Ambru" Island of Mr. Dresser's paper (Ibis, 1891, p. 101); Mr. Forbes has duly written "Ambon" on the label.

g'. ♀ ad. sk.	Menado (*Duivenbode*).	Tweeddale Coll.
h'. ♀ ad. sk.	Makassar.	Wallace Coll.
i', *k'*. Ad.; *l'*. Juv. sk.	Sula Islands.	Wallace Coll.
m', *n'*. ♂ ad. sk.	Lombock.	Wallace Coll.
o', *p'*. ♀ ad.	E. Timor.	Wallace Coll.
q'. Ad. sk.	Flores.	Wallace Coll.
r'. Skeleton.		Purchased.
s'. Skeleton.		Eyton Coll.

Intermediate specimens between Eurystomus orientalis *and* E. australis.

a. Ad. sk.	Negros, Philippines.	Gurney Coll.
b. ♂ ad. sk.	Ayala, Mindanao, Dec. 8.	E. L. Moseley, Esq. [C.].

6. **Eurystomus calonyx.** (Plate II. fig. 2.)

Eurystomus calonyx, *Hodgs. Icon. ined. in Brit. Mus., Passeres*, pls. 10, 11 (no. 247); *id. in Gray's Zool. Misc.* p. 82 (1844, nomen nudum); *Sharpe, P. Z. S.* 1890, p. 551; *Styan, Ibis*, 1891, p. 317.

Eurystomus orientalis (*nec L.*), *Hodgs. Icon.* pls. 10, 11 (no. 248); *id. in Gray's Zool. Misc.* p. 82 (1844); *Gray, Cat. Mamm. etc. Nepal pres. Hodgs.* p. 55 (1846); *id. List Fissir. Brit. Mus.* p. 31 (1848); *Blyth, Cat. B. Mus. As. Soc.* p. 51 (1849); *Swinh. Ibis*, 1860, p. 48, 1861, p. 31; *Radde, Reis. Sibir.* p. 114, pl. ii. fig. 2 (1861); *Jerd. B. Ind.* i. p. 219 (1862); *Swinh. Ibis*, 1866, p. 129; *Bulger, Ibis*, 1869, p. 155; *Swinh. P. Z. S.* 1871, p. 347; *Jerd. Ibis*, 1872, p. 3; *Pelz. Ibis*, 1873, p. 108; *Hume, Nests & Eggs Ind. B.* p. 105 (1873); *Tacz. Bull. Soc. Zool. France*, i. p. 135 (1876); *Dybowski, J. f. O.* 1876, p. 192; *David & Oust. Ois. Chine*, p. 72 (1877); *Hume, Str. F.* viii. p. 49 (1879); *Blakist. Amend. List B. Japan*, p. 24 (1884); *Styan, Ibis*, 1887, p. 229; *Oates, ed. Hume's Nests & Eggs*, iii. p. 57 (1890, pt.).

Adult (type of species). Similar to *E. orientalis*, but having the black terminal part of the tail overshaded with purplish blue, and the outer black secondaries also externally washed with purplish blue; "bill and feet coral-red; iris red" (*H. E. M. James*). Total length 11 inches, culmen 1·2, wing 7·4, tail 3·9, tarsus 0·75.

Young. Duller than the adults, and having only a greenish shade on the throat instead of purplish blue.

Hab. Amoor-Land, Manchuria, and Northern China in summer, apparently wintering in Tenasserim and the Malayan Peninsula and Borneo. Throughout the Himalayas from Kumaun to Assam.

a. ♂ ad. sk.	Changpei Shan Mts., Manchuria, July.	H. E. M. James, Esq. [P.].
b. Ad. sk.	N. China.	W. Fortune, Esq. [C.].
c. Juv. sk.	Amoy, May (*R. Swinhoe*).	Seebohm Coll.
d. ♂ ad. sk.	Kumaun.	Hume Coll.
e, *f*, *g*. Ad. et juv. sk.	Nepal.	Hodgson Coll. (Type of species.)
h. Ad. sk.	Nepal (*B. H. Hodgson*).	India Museum.
i, *k*. Ad.; *l*, *m*. Juv. sk.	Native Sikhim, June, July (*L. Mandelli*).	Hume Coll.

n–t. Ad. sk.	Sikhim, Jan., April, Sept., Oct. (*L. Mandelli*).	Hume Coll.
u, v. Ad. et juv. sk.	Sikhim.	Hume Coll.
w, x, y. Ad.; *z.* Imm. sk.	Darjiling.	Hume Coll.
a', *b'*. ♂ ad.; *c'*, *d'*. ♀ ad. sk.	Tippook, Assam, March, April (*J. Cockburn*).	Hume Coll.
e'. ♂ ad. sk.	Sadhyia, April (*J. Cockburn*).	Hume Coll.
f'. ♀ ad. sk.	N. Khasia Hills, March (*A. W. Chennell*).	Tweeddale Coll.
g'. ♂ ad. sk.	Karen Hills, Jan. (*R. G. W. R.*).	Tweeddale Coll.
h'. ♀ ad. sk.	Mooleyit, Tenasserim, April 10 (*W. Limborg*).	Tweeddale Coll.
i'. ♂ imm. sk.	Bankasoon, Feb. 3 (*W. D.*).	Hume Coll.
k'. Ad. sk.	Cambodia (*Mouhot*).	Tweeddale Coll.
l'. ♂ ad. sk.	Copah, Jan. 19 (*J. Darling*).	Hume Coll.
m', *n'*. Ad. sk.	Malacca, July (*W. D.*).	Hume Coll.
o'–q'. Ad. sk.	Malacca (*R. G. W. R.*).	Tweeddale Coll.
r'. ♀ ad. sk.	Pulo Seban, near Malacca, Nov. 10 (*W. D.*).	Hume Coll.
s', *t'*. ♂ ad.; *u'*. ♀ ad. sk.	Kuroo, near Malacca, Oct., Nov. (*W. D.*).	Hume Coll.
v'. Ad. sk.	Mount Penrisen, Borneo.	A. H. Everett, Esq. [C.].

7. Eurystomus crassirostris.

Eurystomus crassirostris, *Scl. P. Z. S.* 1869, p. 121; *Sharpe, Ibis*, 1871, p. 185; *Elliot, Ibis*, 1871, p. 204; *Salvad. & D'Albert. Ann. Mus. Civic. Genov.* vii. p. 814 (1875); *Ramsay, Proc. Linn. Soc. N. S. W.* i. p. 389 (1876); *Salvad. op. cit.* p. 19 (1876), pp. 125, 308 (1877); *Scl. P. Z. S.* 1877, p. 106, 1878, p. 671; *Ramsay, Proc. Linn. Soc. N. S. W.* iii. p. 263 (1878), iv. p. 71 (1879); *Finsch, P. Z. S.* 1879, p. 10; *Sharpe, Journ. Linn. Soc.* xiii. p. 493 (1878), xiv. p. 686 (1879); *Salvad. Orn. Papuasia e delle Molucche*, i. p. 510 (1880, pt.); *Finsch, Ibis*, 1881, p. 536; *Ramsay, Proc. Linn. Soc. N. S. W.* vii. p. 20 (1882); *Tristr. Ibis*, 1882, p. 145; *Finsch, Vög. der Südsee*, p. 25 (1884); *Nehrk. J. f. O.* 1884, p. 32; *Guillem. P. Z. S.* 1885, p. 629; *Salvad. Agg. Orn. Papuasia etc.* i. p. 61 (1889, pt.).

Eurystomus waigiouensis, *Elliot, Ibis*, 1871, pp. 203, 204.

Adult male. Similar to *E. calonyx*, and, like that species, having the outer secondaries and the whole of the end of the tail washed with rich purplish blue, but larger in size: "bill very bright orange-red; feet orange; iris red" (*L. D'Albertis*). Total length 12 inches, culmen 1·25, wing 7·9, tail 4·4, tarsus 0·75.

Hab. New Guinea and Waigiou, extending to Duke of York Island, New Britain, and New Ireland.

a. ♀ ad. sk.	Waigiou.	Wallace Coll. (Type of *E. waigiouensis*.)
b. Ad. sk.	Astrolabe Mountains, New Guinea.	A. Goldie [C.].
c. ♂ ad. sk.	Duke of York Island.	Rev. G. Brown [C.].
d. ♀ ad. sk.	Duke of York Island (*Rev. G. Brown*).	Tweeddale Coll.

8. Eurystomus solomonensis. (Plate III. fig. 1.)

Eurystomus crassirostris (*nec Scl.*), *Gray, in Brenchley's 'Cruise of the Curaçoa,'* p. 358, pl. 3 (1873); *Grant, P. Z. S.* 1887, p. 330, 1888, p. 194.
Eurystomus solomonensis, *Sharpe, P. Z. S.* 1890, p. 552.

Adult male. Similar to *E. orientalis*, and having a blackish band like that species, but distinguished by a stouter bill and a much brighter blue under surface, with a larger patch of blue on the throat; the blue on the wings and tail is also much more intense: bill red, not black at the tip. Total length 12 inches, culmen 1·45, wing 7·7, tail 5·2, tarsus 0·7.

Adult female. Similar to the male in colour. Total length 12 inches, culmen 1·2, wing 7·9, tail 5·2, tarsus 0·7.

Hab. Solomon Islands.

a, b. ♂ ♀ ad. sk.	Ugi Island, Aug.	J. Brenchley, Esq. [C.]. (Types of species.)
c. ♂ ad. sk.	Alu.	C. M. Woodford, Esq. [C.].

9. Eurystomus azureus. (Plate III. fig. 2.)

Eurystomus azureus, *Gray, P. Z. S.* 1860, p. 346; *Finsch, Neu-Guinea*, p. 160 (1865); *Schl. Mus. Pays-Bas*, Coraces, p. 141 (1867); *Gray, Hand-l. B.* i. p. 76, no. 908 (1869); *Sharpe, Ibis*, 1871, p. 185; *Elliot, t. c.* p. 204; *Salvad. Ann. Mus. Genov.* x. p. 308 (1877); *id. Orn. Papuasia e delle Molucche*, i. p. 512 (1880); *Guillem. P. Z. S.* 1888, p. 569; *Salvad. Agg. Orn. Papuasia*, pt. i. p. 61 (1889).
Eurystomus orientalis, pt., *Meyer, Orn. Mitth.* p. 17 (1875).

Adult (type of species). General colour above and below deep purplish blue, blacker on the head and sides of face; quills black, externally purplish blue, somewhat greener on the inner secondaries, with a large patch of silvery cobalt near the base of the primaries; tail-feathers purplish blue, black on the inner webs. Total length 12 inches, culmen 1·15, wing 7·3, tail 4·2, tarsus 0·7.

Hab. Islands of Batchian and Halmahera in the Moluccas.

a, b. ♀ ad. et imm. sk.	Batchian.	Wallace Coll. (Types of species.)
c. Ad. st.	Batchian.	Wallace Coll.

Family MEROPIDÆ.

Palate desmognathous. Basipterygoid processes absent.

Oil-gland nude. Cæca present.

Sternum with four notches in posterior extremity; episternal process perforated to receive the feet of the coracoids.

Spinal tract well defined on the neck, but divided into two tracts on the upper back.

Left carotid present. Ambiens muscle absent.

Bill long and gently curved, the lower mandible and the genys having the same deflection as the maxilla towards the tip; culmen with a sharply defined ridge, which is grooved in *Nyctiornis*.

Feet syndactyle; the fourth toe united to the third as far as the last joint; the second toe united to the middle for the basal joint only.

Tail-feathers ten.

Young hatched helpless.

Range. Temperate and Tropical portions of the Old World.

In the determination of the genera of this family I have mainly adopted the conclusions of Mr. H. E. Dresser's 'Monograph' of the family. I think that he has recognized as many genera as can easily be diagnosed; but the position of the nasal apertures will probably be found to afford characters for further subdivisions of the genera. Unfortunately, the condition of dried specimens does not allow us to arrive at a satisfactory conclusion with regard to this character.

Key to the Genera.

a. With the breast-plumes ordinary.
  a'. With the centre tail-feathers not elongated; the tail very distinctly forked ..... 1. DICROCERCUS, p. 41.
  b'. With the centre tail-feathers not elongated; the tail square ..... 2. MELITTOPHAGUS, p. 44.
  c'. With the centre tail-feathers elongated ..... 3. MEROPS, p. 58.
b. With the breast-plumes broad, elongated and pendent; nostrils hidden by dense bristles.
  d'. With the centre tail-feathers elongated ..... 4. MEROPOGON, p. 87.
  e'. With the tail square ..... 5. NYCTIORNIS, p. 88.

1. DICROCERCUS.

	Type.
Dicrocercus, *Cab. & Heine, Mus. Hein.* Th. ii. p. 136 (1863)	D. hirundineus.
Tachymerops, *Fitz. Sitz. k. Akad. Wissensch. Wien*, xxi. Abth. ii. p. 304 (1856)	D. hirundineus.

Range. Confined to Africa.

Key to the Species.

a. Forehead and eyebrow blue, contrasting with the rest of the head, which is green ..... *furcatus*, p. 42.
b. With the forehead green like the head, without any blue on the forehead or eyebrow ..... *hirundineus*, p. 43.

1. Dicrocercus furcatus. (Plate I. fig. 2.)

Merops furcatus, *Stanl. in Salt's Voy. Abyss.* App. iv. p. lvii (1814).
Merops azuror, *Less. Traité*, p. 239 (1831).
Merops hirundinaceus (*nec* V.), *Swains. B. W. Afr.* p. 91, pl. 10 (1837); *Reichenb. Handb. Merop.* p. 82, Taf. 446. figs. 3235–36 (1852); *Hartl. Orn. W.-Afr.* p. 40 (1857); *id. J. f. O.* 1861, p. 107; *Schl. Mus. P.-B.*, Merops, p. 11 (1863); *Heugl. J. f. O.* 1864, p. 236; *id. Orn. N.O.-Afr.* ii. p. 210 (1870).
Merops chrysolaimus, *Jard. & Selby, Ill. Orn.* ii. pl. 99 (c. 1829).
Melittophagus furcatus, *Licht. Nomencl. Av.* p. 66 (1854).
Dicrocercus hirundinaceus, *Cab. & Heine, Mus. Hein.* ii. p. 136 (1860, pt.).
Melittophagus hirundinaceus (*nec* V.), *Antin. Cat. descr. Ucc.* p. 31 (1864); *Hartm. J. f. O.* 1866, p. 204.

Adult male. General colour above golden green; wings like the back: primaries pale chestnut, edged with greenish at the ends of the outer webs, and with blackish tips to the feathers, forming a broad band: the inner secondaries green like the back and slightly tinged with bluish; upper tail-coverts pale cobalt-blue, the two centre tail-feathers greenish blue, the rest golden olive, blackish along the inner margin towards the tips, which are whitish; the outer ones, which are the longest, tipped with black, which also forms a subterminal bar on all the feathers; head like the back, with a band of cobalt-blue feathers across the forehead and lores, reaching to just above the eye; a streak through the eye and ear-coverts black; cheeks and throat orange-yellow, followed by a band of ultramarine-blue, which is paler towards the sides of the neck and the hinder cheeks, the latter being ashy white; breast green like the back; abdomen and under tail-coverts blue, with a tuft of whitish feathers on each side of the vent; under wing-coverts, axillaries, and quills light chestnut, the latter being dusky towards their tips: "bill black; feet grey; iris red" (*Heuglin*). Total length 8·5 inches, culmen 1·4, wing 3·8, tail 4·05, tarsus 0·4.

Adult female. Similar to the male in colour, but greener both on the upper and under parts, and paler yellow on the throat; the blue band on the throat also much paler. Total length 8 inches, culmen 1·35, wing 3·65, tail 3·7, tarsus 0·35.

Young. Similar to the adults, but with no yellow on the throat, and having the chest pale green, changing to bluish green on the abdomen.

Hab. West Africa from Senegambia to the Niger, and probably

to Gaboon *, extending to the Upper White Nile and Equatorial Africa.

a, *b*. Ad. et juv. sk.	Rufisque, Senegambia, Jan., March (*L. Laglaize*).	Tweeddale Coll.
c. Ad. sk.	River Gambia (*Col. Strachan*).	Sharpe Coll.
d. ♂ ad. sk.	Sierra Leone (*Dr. Ferguson*).	Jardine Coll. (Type of *M. chrysolaimus*.)
e. Ad. sk.	Shonga, R. Niger.	Capt. M. Ferryman [P.].

2. **Dicrocercus hirundineus.** (Plate I. fig. 1.)

Merops hirundineus, *Licht. Cat. rer. nat. rariss.* p. 21 (1793); *Finsch & Hartl. Vög. Ostafr.* p. 193 (1870).
Le Guêpier à queue fourchue ou le Guêpier Tawa, *Levaill. Hist. Nat. Guép.* iii. p. 35, pl. 8 (1807).
Merops hirundinaceus, *Vieill. N. Dict. d'Hist. Nat.* xiv. p. 21 (1817); *Gray, Gen. B.* i. p. 86 (1846, pt.); *id. Cat. Fissir. Brit. Mus.* p. 71 (1848); *Monteiro, P. Z. S.* 1865, p. 96; *Layard, B. S. Afr.* p. 70 (1867); *id. Ibis*, 1869, p. 72; *Gray, Hand-l. B.* i. p. 100, no. 1221 (1869); *Bocage, Orn. Angola*, p. 93 (1881).
Melittophagus tawwa, *Boie, Isis*, 1828, p. 316.
Merops taiva, *Cuvier, Règne Anim.* i. p. 442 (1829).
Melittophagus hirundinaceus, *Bp. Consp.* i. p. 163 (1850, pt.).
Melittophagus hirundineus, *Strickl. & Scl. Contr. Orn.* 1852, p. 154.
Dicrocercus hirundinaceus, *Gurney in Anderss. B. Dam.-Ld.* p. 63 (1872); *Ayres, Ibis*, 1878, p. 285; *Nichols. P. Z. S.* 1878, p. 355; *Sharpe in Oates' Matabele-Ld.* App. p. 302 (1881); *Shelley, P. Z. S.* 1881, p. 569; *Holub & Pelz. Beitr. Orn. Südafr.* p. 66 (1882); *Sharpe, ed. Layard's B. S. Afr.* pp. 101, 805 (1884).
Dicrocercus hirundineus, *Dresser, Monogr. Merop.* p. 99, pl. 22 (1884).
Merops hirundo, *Schalow, J. f. O.* 1886, p. 420.

Adult male. Similar to *D. furcatus*, but distinguished by the absence of blue on the forehead and eyebrow, both of these parts being green like the rest of the head: "bill black; feet greyish dusky; iris bright crimson" (*T. Ayres*). Total length 8·5 inches, culmen 1·3, wing 3·95, tail 4·05, tarsus 0·35.

Adult female. Similar to the male in colour.

Hab. South Africa, to the Zanzibar region on the east coast, and to Damara-Land and Benguela on the west.

a. Ad. sk.	South Africa (*Sir A. Smith*).	Jardine Coll.
b. Ad. sk.	Natal.	Gould Coll.
c. ♂ ad. sk.	Natal, June (*T. Ayres*).	Gurney Coll.
d. ♀ ad. sk.	Potchefstroom, June 2 (*T. Ayres*).	Gurney Coll.
e, *f*, *g*. Ad. sk.	Makalaka Country (*Dr. Bradshaw*).	Shelley Coll.

* I have not seen a specimen from this country.

k l. ♂ ad. sk.	Otjimbinque, Damara-Land, Nov., Feb., July (*C. J. Andersson*).	Sharpe and Tweeddale Colls.
m. Ad. sk.	Lake Ngami (*Chapman*).	Tweeddale Coll.
n, o. Ad. et juv. sk.	Benguela (*Monteiro*).	Sharpe Coll.
p. ♂ ad. sk.	Victoria Falls, Zambesi, Jan. (*F. Oates*).	W. E. and C. G. Oates, Esqrs. [P.].
q, r. Ad. sk.	Dar-es-Salaam (*Sir J. Kirk*).	Shelley Coll.
s. Ad. sk.	Dar-es-Salaam.	Purchased.

2. MELITTOPHAGUS.

	Type.
Melittophagus, *Boie, Isis*, 1828, p. 316	M. pusillus.
Meropiscus, *Sundev. Œfv. K. Vet.-Akad. Förh. Stockh.* 1849, p. 162	M. gularis.
Sphecophobus, *Reichenb. Handb., Merop.* p. 82 (1852).	M. variegatus.
Coccolarynx, *Reichenb. t. c.* p. 83 (1852)	M. bullocki.
Spheconax, *Cab. & Heine, Mus. Hein.* Th. ii. p. 133 (1860)	M. albifrons.
Melittias, *iid. t. c.* p. 134 (1860)	M. leschenaulti.

Range. The whole of tropical Africa, and the Indian Peninsula and Ceylon, extending through the Burmese countries to Siam and down the Malayan Peninsula to Java.

Key to the Species.

a. Outer aspect of quills fawn-colour or chestnut; tail-feathers fawn-coloured, with a black band at the end, followed by tips of ashy or whitish; throat yellow, with a black or blue band across the lower throat.
  a'. Band on lower throat black.
    a''. Forehead green like the head, but showing a small blue streak over the eye .... *meridionalis*, p. 45.
    b''. Forehead and eyebrow green like the head; a tiny bluish spot behind the eye. *pusillus*, p. 47.
    c''. A line along the base of the forehead and a distinct eyebrow blue ..... *cyanostictus*, p. 48.
  b'. Band on lower throat rich ultramarine-blue.
    d''. Forehead green like the head; a little blue above the eye, forming an indistinct eyebrow ..... *variegatus*, p. 48.
    e''. Forehead and eyebrow blue ..... *lafresnayii*, p. 49.
b. Outer aspect of quills chestnut; tail-feathers black, the centre ones washed with bright blue; throat crimson; breast black, streaked with greenish blue ..... *gularis*, p. 50.
c. Outer aspect of quills green.
  c'. With no black line across the fore neck; under tail-coverts blue, not green.
    f''. Throat crimson or golden yellow; chin black or crimson, not white; no white on the cheeks.

a'''. Throat crimson; upper tail-coverts green.
*a*⁴. No blue on eyebrow and no blue cheek-stripe ..... *bullocki*, p. 51.
*b*⁴. A blue eyebrow, and a streak of blue below the ear-coverts ..... *frenatus*, p. 52.
b'''. Throat golden yellow; upper tail-coverts green ..... *boleslavskii*, p. 53.
g''. Throat crimson, with a white chin and cheek-stripe; upper tail-coverts blue .. *albifrons*, p. 53.
h''. Throat white, as also the cheeks; breast pale fawn-colour; a blue eyebrow .... *revoilii*, p. 54.
d'. With a band of black on the fore neck; under tail-coverts emerald-green.
i''. No chestnut on the lower throat before the black bar ..... *leschenaulti*, p. 55.
k''. With a shade of chestnut preceding the black bar on the fore neck ..... *swinhoii*, p. 55.

1. Melittophagus meridionalis. (Plate I. fig. 4.)

? Le Guêpier d'Angola, *Briss. Orn.* iv. p. 558, pl. xliv. fig. 1 A (1760).
? Petit Guêpier vert et bleu à queue étagée, *Montb. Hist. Nat. Ois.* vi. p. 503 (1779).
? Angola Bee-eater, *Lath. Gen. Syn.* i. pt. 2, p. 679 (1782).
? Merops angolensis, *Gm. S. N.* i. p. 463 (1788).
Merops erythropterus (*nec Gm.*), *Mont. Ibis*, 1862, p. 334; *Schl. Mus. Pays-Bas*, Merops, p. 10 (1883, pt.); *Layard, B. S. Afr.* p. 70 (1867); *Bocage, Orn. Angola*, p. 92 (1877); *Souza, Journ. Lisb.* 1887, pp. 45, 91, 1888, p. 220.
Merops variegatus (*nec V.*), *Kirk, Ibis*, 1864, p. 324; *Finsch & Hartl. Vög. Ostafr.* p. 191 (1870, pt.).
Melittophagus pusillus (*nec Müll.*), *Ayres, Ibis*, 1871, p. 150; *Gurney in Anderss. B. Dam.-Ld.* p. 62 (1872); *Shelley, Ibis*, 1882, p. 242.
Melittophagus erythropterus (*nec Gm.*), *Gurney, Ibis*, 1862, p. 27.
Merops pusillus, *Gray, Hand-l. B.* i. p. 101, no. 1222 (1869, pt.); *Buckley, Ibis*, 1874, p. 363; *Sharpe & Bouvier, Bull. Soc. Zool. France*, i. p. 40 (1876); *Sharpe, ed. Layard's B. S. Afr.* pp. 100, 805 (1876–81); *Barratt, Ibis*, 1876, p. 197; *Ayres, Ibis*, 1879, p. 290; *Sharpe in Oates' Matabele-Ld.* p. 301 (1881).
Merops cyanostictus (*nec Cab.*), *Reichen. J. f. O.* 1877, p. 21; *Bocage, Orn. Angola*, App. p. 537 (1881).
Melittophagus minutus (*nec V.*), *Holub & Von Pelz. Beitr. Orn. Südafr.* p. 67 (1882).

Adult male. General colour above bright grass-green; wing-coverts like the back; primary-coverts olive-green like the outer web of the primaries, which are fawn-coloured on the inner web and blackish towards the tips; the secondaries bright fawn-colour, with a broad terminal band of black, the inner ones green tinged with bluish; upper tail-coverts and two centre tail-feathers green like the back, with a blackish shaft-streak; remainder of tail bright fawn-colour at the base, with greenish margins and ashy-white

tips, before which is a broad black band; head like the back; lores, a band through the eye, and the ear-coverts black, with a small streak of pale blue above the eye; throat yellow, separated by a narrow line of blue from a broad black band on the fore neck, this black band surrounded by chestnut on its lower margin; remainder of under surface of body ruddy fawn-colour, washed with olive-green; under wing-coverts and quill-lining pale fawn-colour, blackish towards the ends of the latter: "bill black; tarsi and feet dusky; iris bright crimson" (*T. Ayres*). Total length 6·4 inches, culmen 1·2, wing 3·25, tail 2·6, tarsus 0·35.

Adult female. Similar to the male. Total length 6·4 inches, culmen 1·1, wing 3·25, tail 2·6, tarsus 0·35.

Young male. Similar to the adults, but duller; the throat yellowish buff, shading off into a dull green on the fore neck and breast; abdomen and under tail-coverts buff tinged with green: "bill black; legs dark brown; iris brown" (*T. E. Buckley*). Total length 6 inches, culmen 0·95, wing 3·1, tail 2·35, tarsus 0·35.

Hab. South-eastern Africa from Natal to the Zambesi, and thence to the Zanzibar district on the east coast, and to Angola and the Lower Congo on the west.

a. ♀ juv. sk.	Port Natal (*McKen*).	Jardine Coll.
b. Ad. sk.	Newcastle, Natal (*Savile Reid*).	Shelley Coll.
c. Ad. sk.	Durban, Natal (*Gordge*).	Shelley Coll.
d, *e.* ♂; *f*, *g.* ♀ ad. sk.	Pinetown, June, July, Nov. (*T. L. Ayres*).	Shelley Coll.
h. ♂ ad. sk.	Pinetown (*T. L. Ayres*).	Seebohm Coll.
i. ♂ ad. sk.	Transvaal (*T. Ayres*).	Sharpe Coll.
k, *l.* ♂ juv. sk.	Transvaal, Nov. (*T. E. Buckley*).	Shelley Coll.
m. ♂ ad. sk.	Rustenberg, June 17 (*T. Ayres*).	Gurney Coll.
n. ♀ ad. sk.	Rustenberg, June (*W. Lucas*).	Shelley Coll.
o, *p.* Ad. sk.	Tati, Matabele-Land, March (*F. Oates*).	W. E. & C. G. Oates, Esqrs. [P.].
q–v. Ad. sk.	Makalaka Country (*Dr. Bradshaw*).	Shelley Coll.
w, *x.* Ad. sk.	Tete, Zambesi (*Sir J. Kirk*).	Livingstone Exped.
y. Ad. sk.	R. Zambesi (*Dr. Meller*).	Tweeddale Coll.
z. Ad. sk.	Shiré River, Zambesi.	Sir J. Kirk [P.].
a', *b'*. Ad. sk.	Rovuma River (*J. Thompson*).	Shelley Coll.
c'. Ad. sk.	Dar-es-Salaam (*Sir J. Kirk*).	Shelley Coll.
d'. Ad. sk.	Mamboio (*Sir J. Kirk*).	Shelley Coll.
e', *f'*. Ad. sk.	Kabinda, Congo, Aug.	Commander Sperling [P.].
g'. Ad. sk.	Malimbe, Congo (*L. Petit*).	Shelley Coll.
h'. ♂ ad. sk.	Landana (*L. Petit*).	Shelley Coll.
i', *k'*. Ad. sk.	Angola.	Monteiro Coll.

2. Melittophagus pusillus. (Plate I. fig. 5.)

Guêpier rouge et vert du Sénégal, *Montb. H. N. Ois.* vi. p. 507 (1779).

Petit Guêpier du Sénégal, *Daubent. Pl. Enl.* vi. pl. 318.

Merops pusillus, *P. L. S. Müll. S. N. Suppl.* p. 95 (1776); *Cass. Proc. Philad. Acad.* 1864, p. 244; *Shelley & Buckley, Ibis*, 1872, p. 286; *Ussher, Ibis*, 1874, p. 48; *Shelley, Ibis*, 1883, p. 556; *Hartert, J. f. O.* 1886, p. 593.

Muscicapa bicolor, *Bodd. Tabl. Pl. Enl.* p. 19 (1783).

Merops erythropterus, *Gm. S. N.* i. p. 464 (1788); *Vieill. N. Dict. d'Hist. Nat.* xiv. p. 22 (1817); *Swains. B. W. Afr.* p. 88 (1837); *Rüpp. Syst. Uebers.* p. 24 (1845); *Strickl. P. Z. S.* 1850, p. 216; *Hartl. Orn. W.-Afr.* p. 40 (1857); *id. J. f. O.* 1861, p. 107; *Heugl. Orn. N.O.-Afr.* i. p. 208 (1869); *Sharpe, Ibis*, 1869, p. 385; *Blanf. Geol. & Zool. Abyss.* p. 322 (1870); *Antin. & Salvad. Viagg. Bogos*, p. 67 (1873); *Forbes, Ibis*, 1883, p. 522; *Büttik. Notes Leyd. Mus.* vii. p. 167 (1885), viii. p. 249 (1886), x. pp. 71, 219 (1888).

Le Guêpier minule, *Levaill. H. N. Guêpiers*, iii. p. 53, pl. 17 (1807); *Vieill. N. Dict. d'Hist. Nat.* xiv. p. 18 (1817).

Merops collaris, *Vieill. N. Dict. d'Hist. Nat.* xiv. p. 16 (1817); *Hartl. Orn. W.-Afr.* p. 40 (1857); *Gray, Hand-l. B.* i. p. 101, no. 1223 (1869).

Merops minutus, *Bonn. et Vieill. Enc. Méth.* i. p. 392 (1823, *ex Levaill.*).

Melittophagus erythropterus, *Boie, Isis*, 1828, p. 316; *Gray, Gen. B.* i. p. 86 (1846); *id. Cat. Fissir. Brit. Mus.* p. 71 (1848); *Bp. Consp.* i. p. 163 (1850); *Cab. & Heine, Mus. Hein.* Th. ii. p. 135 (1860); *Hartl. Abhandl. nat. Ver. Bremen*, vii. p. 111 (1882); *Antin. Cat. descr. Ucc.* p. 31 (1864).

Merops minulus, *Cuvier, Règne An.* i. p. 422 (1829).

Merops pusilla, *Swains. B. W. Afr.* ii. p. 89 (1837).

Merops minullus, *A. E. Brehm, J. f. O.* 1853, p. 75.

Merops minutus (*nec V.*), *Finsch, Trans. Z. S.* vii. p. 225 (1870); *id. & Hartl. Vög. Ostafr.* p. 188 (1870, pt.); *Reichen. J. f. O.* 1875, p. 18.

Melittophagus pusillus, *Dresser, Monogr. Merop.* p. 111, pl. 25 (1885, pt.).

Adult male. Similar to *M. meridionalis*, but without the distinct blue streak above the eye, but showing either an emerald-green eyelid or a tiny spot of blue: "bill black; feet grey; iris red" (*Von Heuglin*). Total length 6·8 inches, culmen 1·2, wing 3·2, tail 2·55, tarsus 0·35.

In the young bird, according to Hr. Hartert, the iris is hazel-brown.

Hab. N.E. Africa and West Africa from Senegambia to the Niger and Cameroons.

a. Ad. sk.	Senegal (*d'Einville*).	Riocour Coll.
b. Ad. sk.	Senegambia.	Governor Rendall [P.].
c. Ad. sk.	River Gambia (*Sir A. Moloney*).	Shelley Coll.
d, e. Ad. sk.	River Gambia.	Sharpe Coll.
f, g, h. Ad. sk.	Fantee (*Governor Ussher*).	Shelley Coll.
i. Ad. sk.	Denkera, Dec. (*H. F. Blissett*).	Sharpe Coll.

k–o. Ad. sk.	Accra, Feb. (*T. E. Buckley & G. E. S.*).	Shelley Coll.
p. Ad. sk.	Shonga, R. Niger.	Capt. M. Ferryman [P.].
q. ♀ ad. sk.	Shonga.	W. A. Forbes, Esq. [P.].
r, s. Ad. sk.	Bejook, Bogos-Land, July (*W. Jesse*).	Sharpe and Tweeddale Colls.
t. Ad. sk.	Anseba River (*Esler*).	Sharpe Coll.
u. ♂ ad. sk.	Bara, Kordofan (*H. Petherick*).	Jardine Coll.

3. Melittophagus cyanostictus. (Plate I. fig. 3.)

Merops collaris (*nec V.*), *Kittl. Kupf. Vög.* p. 5, pl. 7. fig. 2 (1832).
Merops pusillus (*nec Müll.*), *Sharpe, P. Z. S.* 1873, p. 712; *Nicholson, P. Z. S.* 1878, p. 355; *Gurney, Ibis*, 1872, p. 72.
Melittophagus cyanostictus, *Cab. J. f. O.* 1875, p. 340; *id. J. f. O.* 1878, p. 235; *Fischer, Zeitschr. ges. Orn.* i. p. 360 (1884); *Shelley, Ibis*, 1888, p. 286.
Merops minutus, *Fischer & Reichen. J. f. O.* 1878, p. 256.
Melittophagus pusillus (*nec Müll.*), *Shelley, P. Z. S.* 1881, p. 569; *Tristr. Ibis*, 1889, p. 225.
Melittophagus pusillus cyanostictus, *Shelley, Ibis*, 1885, p. 398.
Merops cyanostictus, *Oust. Bibl. Haut Etudes*, xxxi. art. 10, p. 4 (1886); *Reichen. J. f. O.* 1887, p. 61; *Shelley, P. Z. S.* 1889, p. 358.
? Merops cyanostictus, *Reichen. J. f. O.* 1887, pp. 305 (Leopoldville), 308 (Kassongo).

Adult male. Similar to *M. pusillus*, but having a blue frontal band, which is extended over the eye: "bill black; feet dusky; iris red" (*O. Antinori*). Total length 6·4 inches, culmen 1 3, wing 3·45, tail 2·8, tarsus 0·35.

Hab. East Africa, extending from the Zanzibar district north to Shoa, and westwards into the interior. The westward range is uncertain, as the birds from the Congo region are probably *M. meridionalis*.

a, b. Ad. sk.	Shoa (*Sir W. Harris*).	India Museum.
c. ♂ ad. sk.	Daimbi, Shoa, Nov. (*O. Antinori*).	Shelley Coll.
d. ♂ ad. sk.	N'dara, Teita, Aug.	H. C. V. Hunter, Esq. [P.].
e, f. Ad. sk.	Mombasa.	Rev. A. F. Buxton [P.].
g, h, i. Ad. sk.	Mombasa (*Wakefield*).	R. B. Sharpe, Esq. [P.].
k, l. Ad. sk.	Lamu (*Sir J. Kirk*).	Shelley Coll.
m, n. ♂ ad. sk.	Lamu, Jan.	F. J. Jackson, Esq. [P.].
o, p. Ad. sk.	Dar-es-Salaam (*E. C. Buxton*).	Shelley Coll.
q. Ad. sk.	Melindi (*Sir J. Kirk*).	Shelley Coll.

4. Melittophagus variegatus.

Le Guêpier à collier gros-bleu ou le Guêpier Sonnini, *Levaill. Hist. Nat. Guêpiers*, iii. p. 33, pl. 7 (1807).
Merops variegatus, *Vieill. N. Dict. d'Hist. Nat.* xiv. p. 25 (1817); *Hartl. Orn. W.-Afr.* p. 39 (1857); *Cass. Proc. Phil. Acad.* 1859, p. 34; *Hartl. J. f. O.* 1861, p. 106; *Reichen. J. f. O.* 1875, p. 18; *Bocage, Orn. Angola*, p. 91 (1877).
Melittophagus sonninii, *Boie, Isis*, 1828, p. 316 (*ex Levaill.*); *Bp.*

Consp. i. p. 163 (1850); *Dresser, Monogr. Merop.* p. 107, pl. 24 (1885).

Melittophagus variegatus, *Gray, Gen. B.* i. p. 86 (1846).

Melittophagus cyanipectus, *Verr. Rev. et Mag. de Zool.* 1851, p. 269.

Merops sonninii, *Reichenb. Handb., Merop.* p. 71, Taf. 447. fig. 3237 (1852).

Merops cyanipectus, *Reichenb. t. c.* p. 71 (1852).

Sphecophobus sonninii, *Reichenb. t. c.* p. 82 (1852).

Sphecophobus cyanipectus, *Reichenb. t. c.* p. 82 (1852).

Melittophagus angolensis, (*nec Gm.*), *Cab. & Heine, Mus. Hein.* Th. ii. p. 135 (1860).

Merops angolensis (*nec Gm.*), *Gray, Hand-l. B.* i. p. 100, no. 1219 (1869); *Reichen. J. f. O.* 1877, p. 21; *Sharpe, Journ. Linn. Soc., Zool.* xvii. p. 435 (1884).

Adult male. Similar to *M. pusillus*, and having the base of the forehead green like the crown, thus showing only a few blue superciliary feathers; the fore neck, however, is blue, as in *M. lafresnayii*. Total length 6·5 inches, culmen 1·2, wing 3·4, tail 2·5, tarsus 0·35.

Young. Greener above than the adult, and differing in the colour of the under surface; the throat pale yellowish, with no blue on the fore neck, this being replaced by a brownish shade, the breast being emerald-green, streaked with dusky.

Hab. West Africa, from Senegambia to the Congo, extending into Equatorial Africa.

a. Ad. sk.	River Gambia.	Sharpe Coll.
b. Ad. sk.	Gaboon.	Sharpe Coll.
c, d. Ad. sk.	Gaboon (*T. Thompson*).	Shelley Coll.
e. Ad.; *f.* Juv. sk.	Gaboon (*Du Chaillu*).	Sharpe Coll.
g. Ad.; *h.* Juv. sk.	Gaboon (*Du Chaillu*).	Tweeddale Coll.
i. ♂ ad. sk.	Omoro, Gaboon, June 13 (*J. Skertchley*).	Sharpe Coll.
k. Ad. sk.	River Congo.	Commander Sperling [P.].
l. Ad. sk.	Mushra Rek, Equatorial Africa.	F. Bohndorff [C.].

5. Melittophagus lafresnayii.

Merops variegatus (*nec V.*), *Kittl. Kupf. Vög.* p. 5, pl. 7 (1832); *Rüpp. Neue Wirb., Vög.* p. 72 (1835–40); *id. Syst. Uebers.* p. 24 (1845); *Horsf. & Moore, Cat. B. Mus. E. I. Co.* i. pp. 89, 416 (1864); *Heugl. Syst. Uebers.* p. 19 (1856); *Schl. Mus. Pays-Bas*, Merops, p. 11 (1863).

Merops lafresnayii, *Guérin, Rev. Zool.* 1843, p. 322; *Gray, Gen. B.* i. p. 86 (1846); *Guérin in Ferr. & Galin. Voy. Abyss.* iii. p. 243, pl. 15 (1847); *Brehm, Reis. Habesch*, p. 210 (1863); *Heugl. J. f. O.* 1864, p. 355; *Gray, Hand-l. B.* i. p. 100, no. 1220 (1869); *Heugl. Orn. N.O.-Afr.* i. p. 206 (1869), iv. p. lxvi (1871); *Blanf. Geol. & Zool. Abyss.* p. 322 (1870); *Finsch, Trans. Zool. Soc.* vii. p. 225 (1870); *id. & Hartl. Vöy. Ostafr.* p. 192, note (1870).

Merops lefebvrii, *Des Murs, Rev. Zool.* 1846, p. 243; *id. in Lefebvr. Voy. Abyss.* pp. 83, 164, pl. 5 (1845); *id. Iconogr. Orn.* pl. 34 (1846).

Melittophagus lafresnayi, *Bp. Consp.* i. p. 163 (1850); *Dresser, Mongr. Merop.* p. 105, pl. 23 (1884).

Merop svariegatus (*nec V.*), *Reichenb. Handb., Merop.* p. 72, Taf. 447. fig. 3238 (1852).
Merops lafresnayi, *Reichenb. Handb., Merop.* p. 72, Taf. 447. fig. 3239 (1852).
Sphecophobus variegatus *et* S. lafresnayii, *Reichenb. t. c.* p. 82.

Adult male. Similar to *M. pusillus*, but larger, and having a frontal band of ultramarine blue which extends backwards over the eye; the hinder cheeks white; the patch on the fore neck deep blue instead of black; the chestnut colour extending down the breast, the abdomen tinged with golden green, and the tail-feathers tipped with purer white: "bill black; feet dusky; iris cinnabar-red" (*Heuglin*). Total length 8 inches, culmen 1·45, wing 4, tail 3·5, tarsus 0·35.

Adult female. Similar to the male. Total length 7·5 inches, culmen 1·4, wing 3·7, tail 3·2, tarsus 3·5.

Hab. N.E. Africa from Abyssinia to Shoa.

a. Ad. sk.	Sooroo, Abyssinia, April 5 (*W. Jesse*).	Tweeddale Coll.
b, c. Ad. sk.	Undul and Barakit, Abyssinia, Feb., May.	W. T. Blanford, Esq. [P.].
d. Ad. sk.	On the road to Magdala (*Col. Napier Sturt*).	Hume Coll.
e, f. Ad. sk.	Anseba River, Bogos Land (*Esler*).	Sharpe Coll.
g, h. Ad. sk.	Shoa (*Sir W. C. Harris*).	India Mus.
i, k. ♂; *l.* ♀ ad. sk.	Sciotalit, Shoa, Jan., Feb., June (*O. Antinori*).	Shelley Coll.

6. Melittophagus gularis.

Merops gularis, *Shaw & Nodder, Nat. Misc.* ix. pl. 337 (1798); *Vieill. N. Dict. d'Hist. Nat.* xiv. p. 16 (1817); *Hartl. Orn. W.-Afr.* p. 42 (1857); *Reichenb. Handb., Merop.* p. 80, pl. 452. figs. 3258–59 (1852); *Schl. Mus. Pays-Bas*, Merops, p. 12 (1863); *Reichen. J. f. O.* 1875, p. 19; *Büttik. Notes Leyden Mus.* x. p. 71 (1885), p. 167 (1886).
Red-throated Bee-eater, *Shaw, Gen. Zool.* viii. p. 177, pl. 23 (1811).
Melittophagus gularis, *Gray, Gen. B.* i. p. 86, pl. 30 (1846); *Dresser, Monogr. Merop.* p. 123, pls. 28, 29 (1885); *Shelley, Ibis*, 1890, p. 167; *Sharpe, App. to Jameson's 'Rear Column,'* p. 407 (1890).
Meropiscus gularis, *Sundev. Œfv. K. Vet.-Akad. Förh. Stockh.* 1849, p. 162; *Cass. Proc. Philad. Acad.* 1859, p. 35; *Hartl. J. f. O.* 1861, p. 107; *Sharpe, Ibis*, 1869, p. 385; *Ussher, Ibis*, 1874, p. 48; *Sharpe & Bouv. Bull. Soc. Zool. France*, i. p. 304 (1876); *Bocage, Orn. Angola*, p. 94 (1877).
Nyctiornis gularis, *Bp. Consp.* i. p. 164 (1850); *Gray, Hand-l.* i. p. 98, no. 1197 (1869).

Adult. General colour above glossy black, including the scapulars and lower back; rump and upper tail-coverts brilliant blue; wing-coverts black, the greater coverts edged externally with blue; bastard-wing and primary-coverts black; quills chestnut, edged and banded at the tip with black, the outer primaries almost

entirely black; inner secondaries black, edged with blue, and blue towards the ends; centre tail-feathers blue, black in the centre, the remainder entirely black; crown of head black, like the back; the forehead and a broad eyebrow bright cobalt, as well as the lores and a spot at the base of the cheeks; sides of face, ear-coverts, and cheeks black, with a slight bluish shade below the eye; throat bright scarlet; sides of throat, sides of neck, and under surface of body black, the fore neck and breast streaked with bright cobalt, more thickly on the abdomen and flanks; thighs black marked with blue; under tail-coverts bright cobalt; under wing-coverts blackish, the edge of the wing blue; quills below dusky, chestnut along the inner edge. Total length 7·5 inches, culmen 1·4, wing 3·45, tail 2·8, tarsus 0·4.

The sexes are alike in colour, according to Dr. Reichenow.

Young. Similar to the adults, but having the upper surface slightly washed with green, and the throat green, with a few crimson feathers interspersed.

Hab. West Africa from Liberia to the Congo and Angola. Dr. Reichenow (J. f. O. 1885, p. 222) has separated the birds from the two latter provinces under the name of *Melittophaga* gularis australis*. I have not examined a specimen from these parts, and am unable to say whether the slight differences mentioned by Dr. Reichenow are sufficient to separate *Melittophagus australis* as a species.

a. Ad. sk.	Ashanti.	Godfrey Lagden, Esq. [P.].
b. Ad. sk.	Denkera (*Governor Ussher*).	Shelley Coll.
c. Ad. sk.	Ankobra River.	Sir R. Burton and Commander Cameron [P.].
d. Ad. sk.	Fantee (*Governor Ussher*).	Sharpe Coll.
e–i. Ad. sk.	Fantee (*Governor Ussher*).	Shelley Coll.
k. Imm. sk.	Fantee.	Sir A. Moloney [P.].
l. Ad. sk.	Gaboon (Walker).	Sharpe Coll.
m. Ad. sk.	Gaboon.	Gould Coll.
n, o, p. Ad. sk.	Gaboon (*P. B. DuChaillu*).	Tweeddale Coll.

7. Melittophagus bullocki.

Le Guêpier à gorge rouge ou Le Guêpier Bulock, *Levaill. Hist. Nat. Guêpiers*, iii. p. 59, pl. 20 (1807).

Merops bullocki, *Vieill. N. Dict. d'Hist. Nat.* xiv. p. 13 (1817); *Smith, S. Afr. Q. Journ.* ii. pt. 2, p. 320 (1834); *Hartl. Orn. W.-Afr.* p. 41 (1854); *id. J. f. O.* 1861, p. 107; *Schl. Mus. Pays-Bas*, Merops, p. 8 (1863, pt.): *Heugl. Orn. N.O.-Afr.* i. pt. 1, p. 204 (1869); *Sharpe & Bouv. Bull. Soc. Zool. France*, i. p. 304 (1876); *Shelley, Ibis*, 1883, p. 556; *Hartert, J. f. O.* 1886, p. 593.

Merops cyanogaster, *Swains. B. W. Afr.* p. 80, pl. 8 (1837).

Melittophagus bullocki, *Gray, Gen. B.* i. p. 86 (1846); *id. List Fissir. Brit. Mus.* p. 72 (1848); *Bp. Consp.* i. p. 163 (1850);

* Corrected at p. 468 of J. f. O. for 1865 to *Meropiscus*.

Gray, Hand-l. B. i. p. 101, no. 1224 (1869); *Dresser, Monogr. Merop.* p. 133 (1885).
Spheconax bullocki, *Cab. & Heine, Mus. Hein.* Th. ii. p. 134 (1860).

Adult. General colour above green, inclining to ruddy cinnamon on the hind neck and sides of the neck; wing-coverts and quills green like the back, the primaries dusky blackish at the ends, all the secondaries banded with black at the tips, with a subterminal shade of bluish; the innermost secondaries green, like the back, with a spot of blue near the ends; centre tail-feathers olive-green, washed with blue on the margins; remainder of the tail-feathers golden buff, chestnut along the inner webs, and banded with green at the ends; the outermost tail-feather green, with dusky inner margins; head green, like the back, slightly washed with emerald-green; lores, feathers round the eye, and ear-coverts black, with a very narrow and indistinct line of green feathers below the latter; cheeks and throat crimson; remainder of under surface from the fore neck downwards cinnamon-buff, washed with olive-greenish; lower flanks, vent, and under tail-coverts deep blue, with a tuft of silky white feathers on each side of the vent; axillaries and under wing-coverts fawn-colour, the edge of the wings green: "bill and feet black; iris brown" (*W. A. Forbes*). Total length 8·5 inches, culmen 1·4, wing 4, tail 3·5, tarsus 0·4.

Hab. West Africa from Senegambia to the Congo, and N.E. Africa from Sennaar to the Upper White Nile districts.

a, b. Ad. sk.	River Gambia (*Sir A. Moloney*).	Shelley Coll.
c. ♂ ad. sk.	Senegal (*d'Einville*).	Riocour Coll.
d, e. Ad. sk.	Senegal.	Sharpe Coll.
f. Ad. sk.	Senegal.	Shelley Coll.
g, h. Ad. sk.	Shonga, R. Niger.	Forbes Coll.
i. ♂ ad. sk.	Langomeri, Equatorial Africa, Aug. 21 (*Emin Pasha*).	Shelley Coll.

8. **Melittophagus frenatus.**

Merops bullocki (*nec V.*), *Rüpp. Neue Wirb., Vög.* p. 72 (1835–40); *id. Syst. Uebers.* p. 24 (1845); *Vierth. Naum.* 1852, pp. 40–53; *Reichenb. Handb., Merop.* p. 78, Taf. 450. figs. 3250–51 (1852); *Heugl. Syst. Uebers.* p. 20 (1856); *Schl. Mus. Pays-Bas*, Merops, p. 8 (1863, pt.); *Heugl. Orn. N.O.-Afr.* i. pt. i. p. 204 (1869, pt.); *Finsch & Hartl. Vög. Ostafr.* p. 188, note (1870).
Coccolarynx bullocki (*nec V.*), *Reichenb. Handb., Merop.* p. 83 (1852).
Merops frenatus, *Hartl. J. f. O.* 1854, p. 257; *id. Orn. W.-Afr.* p. 42 (1857); *id. J. f. O.* 1861, p. 107; *Heugl. J. f. O.* 1864, p. 335; *Hartl. Abhandl. nat. Ver. Bremen*, vii. p. 111 (1881).
Spheconax frenatus, *Cab. & Heine, Mus. Hein.* Th. ii. p. 134 (1860).
Melittophagus bullocki (*nec V.*), *Antin. Cat. descr. Ucc.* p. 31 (1864); *Hartm. J. f. O.* 1866, p. 204; *Dresser, Monogr. Merop.* pl. 32 (1885).
Melittophagus frenatus, *Gray, Hand-l. B.* i. p. 101, no. 1226 (1869); *Pelz. Sitz. zool.-bot. Ges. Wien*, xxxi. p. 143 (1881).

Adult. Similar to *M. bullocki*, but having a narrow superciliary line of blue across the base of the forehead and above the eye, as well as a cheek-stripe of brighter blue below the black ear-coverts. Total length 8·3 inches, culmen 1·45, wing 3·9, tail 3·5, tarsus 0·45.

Hab. N.E. Africa.

a. Ad. sk. Sennaar (*Kotschy*). Sharpe Coll.

9. **Melittophagus boleslavskii.**

Merops bullockii, *Vierth. Naum.* 1852, p. 41 (pt.).
Merops boleslavski, *Pelz. Sitz. k. Akad. Wien*, xxx. p. 320 (1858); *Hartl. J. f. O.* 1861, p. 107; *Heugl. Orn. N.O.-Afr.* i. p. 206 (1869).
Spheconax boleslavskii, *Cab. & Heine, Mus. Hein.* Th. ii. p. 133 (1860).
Merops frenatus, pt., *Heugl. J. f. O.* 1864, p. 335; *Finsch & Hartl. Vög. Ostafr.* p. 188 (1870).
Melittophagus boleslavskii, *Gray, Hand-l. B.* i. p. 101, no. 1227 (1869); *Dresser, Monogr. Merop.* p. 137, pl. 33 (1885).

Adult. Similar to *M. bullocki*, but having the throat golden yellow instead of crimson. Total length 8·5 inches, culmen 1·5, wing 3·95, tail 3·5, tarsus 0·4.

The occurrence of this yellow-throated form along with true *M. bullocki* both in Eastern and Western Africa induces me to think that it is an occasional variety of the latter, rather than a distinct species. There is no sign of its being a young bird, as has been suggested by some authors.

Hab. Senegambia and North-eastern Africa.

a. Ad. sk. Casamance. Purchased.

10. **Melittophagus albifrons.**

Merops bullockoides (!), *Smith, S. Afr. Q. Journ.* (2) ii. p. 320 (1834); *id. Ill. Zool. S. Afr.* pl. ix. (1838); *Reichenb. Handb., Merop.* p. 77, pl. 450. figs. 3248–49 (1852); *Kirk, Ibis*, 1864, p. 324; *Layard, B. S. Afr.* p. 70 (1867); *Sharpe, Cat. Afr. B.* p. 4 (1871); *Buckley, Ibis*, 1874, p. 363; *Barratt, Ibis*, 1876, p. 197; *Bocage, Orn. Angola*, p. 93 (1877); *Sharpe & Bouvier, Bull. Soc. Zool. France*, iii. p. 475 (1878); *Sharpe, ed Layard's B. S. Afr.* pp. 99, 804, pl. iv. fig. 1 (1876–84); *Ayres, Ibis*, 1879, p. 289; *Sharpe in Oates' Matabele Land*, p 301 (1881); *Ayres, Ibis*, 1886, p. 284; *Souza, Jorn. Lisb.* p. 220 (1888).
Melittophagus bullockoides, *Gray, Gen. B.* i. p. 86 (1846); *id. Cat. Fissir. Brit. Mus.* p. 72 (1848); *Bp. Consp.* i. p. 164 (1850); *Gray, Hand-l. B.* i. p. 101, no. 1225 (1869); *Ayres, Ibis*, 1871, p. 150; *Shelley, Ibis*, 1882, p. 242; *Dresser, Monogr. Merop.* p. 129, pl. 35 (1885).
Coccolarynx bullockoides, *Reichenb. Handb., Merop.* p. 83 (1862).
Spheconax albifrons, *Cab. & Heine, Mus. Hein.* Th. ii. p. 133 (1860).
Merops smithii, *Schl. Mus. Pays-Bas*, Merops, p. 9 (1863).
Merops albifrons, *Finsch & Hartl. Vög. Ostafr.* p. 187 (1870).
Melittophagus albifrons, *Fischer, Zeitschr. ges. Orn.* i. p. 360 (1884).

Adult male. Similar to *M. bullocki*, but distinguished by its blue upper tail-coverts, and by the hoary white on the forehead, eyebrow, chin, and cheeks; the tail also is green: "bill black; feet dusky; iris dusky" (*T. Ayres*). Total length 9 inches, culmen 1·4, wing 4·45, tail 4·5, tarsus 0·4.

Young. Similar to the adults, but much duller in colour, the blue on the upper and under tail-coverts not so pronounced; the crimson throat duller and not so extended, and the white of the cheeks washed with greenish.

Hab. South Africa from Natal to the Zambesi, and extending into East Africa as far as Masai Land.

a. Ad. st.	Interior of S. Africa N. of 25°.	Sir A. Smith [C.]. (Type of species.)
b. Ad. sk.	Natal.	Sharpe Coll.
c. Ad. sk.	Transvaal (*T. Ayres*).	Sharpe Coll.
d, e. ♂ ad. sk.	Transvaal, July (*T. E. Buckley*).	Shelley Coll.
f. Ad. sk.	Crocodile River, July (*F. Oates*).	W. E. & C. G. Oates, Esqs. [P.].
g. Juv. sk.	Rustenberg.	F. A. Barratt, Esq. [P.].
h. ♂ ad. sk.	Rustenberg, June 11 (*T. Ayres*).	Gurney Coll.
i–o. Ad. sk.	Makalaka Country (*Dr. Bradshaw*).	Shelley Coll.
p, q. Ad. sk.	Zambesi River.	Sir J. Kirk [C.].
r, s, t. Ad. sk.	Rovuma River (*J. Thompson*).	Shelley Coll.
u, v. Ad. sk.	Masai Land (*J. Thompson*).	Shelley Coll.

11. Melittophagus revoilii.

Merops (Melittophagus) revoilii, *Oustalet in Revoil's Faun. et Flor. Çomalis, Ois.* p. 5, pl. i.; *id. Bibl. Ecole Sci. Nat.* xxxi. pt. 10, p. 4 (1886).

Melittophagus revoilii, *Shelley, Ibis*, 1885, p. 398; *Dresser, Monogr. Merop.* p. 139, pl. 34 (1886).

Adult. General colour above yellowish green, the lower back, rump, and upper tail-coverts silvery cobalt, with a tinge of darker blue on the latter; wing-coverts green, washed with bluish green; quills dull green with dusky shafts, all the feathers also tipped with dusky, and inclining to pale cinnamon near the base of the inner web; tail-feathers bluish green; head brighter yellowish green than the back, streaked with silvery blue, and showing a distinct blue eyebrow; lores, feathers round the eye, and ear-coverts black; cheeks and throat white; remainder of under surface of body pale fawn-buff with an olive tint, and a tuft of silky white feathers on each side of the vent; under tail-coverts light cobalt-blue; under wing-coverts pale fawn-colour, the edge of the wing green. Total length 6·5 inches, culmen 1·3, wing 3·1, tail 2·7, tarsus 0·4.

Hab. Somali Land.

a. Ad. sk.	Somali Land (*E. Lort Phillips*).	Shelley Coll.

12. Melittophagus leschenaulti.

Le Guêpier Laichenot, *Levaill. Hist. Nat. Guêpiers*, iii. p. 55, pl. 18 (1807).
? Le Guêpier quinticolor, *Levaill. t. c.* p. 51, pl. 15 (1807).
Merops leschenaulti, *Vieill. N. Dict. d'Hist. Nat.* xiv. p. 17 (1817); *Gray, Gen. B.* i. p. 86 (1846); *id. List Fissir. Brit. Mus.* p. 70 (1848, pt.).
? Merops quinticolor, *Vieill. N. Dict. d'Hist. Nat.* xiv. p. 21 (1817, ex *Levaill.*).
Merops urica, *Horsf. Trans. Linn. Soc.* xiii. p. 172 (1821).
Merops quinticolor, *Horsf. & Moore, Cat. B. Mus. E. I. Co.* i. p. 88 (1854, pt.); *Nichols. Ibis*, 1881, p. 143; *Vorderm. Nat. Tijdschr. Nederl. Ind.* xli. p. 186 (1882), xlii. p. 47 (1883), xliv. p. 191 (1885), xlvi. p. 70 (1887).
Melittophagus leschenaulti, *Dresser, Monogr. Merop.* p. 121, pl. 27 (1885).

Adult male. General colour green, inclining to golden green on the mantle; lower back, rump, and upper tail-coverts light silvery blue; wing-coverts green; quills externally green, internally rufous, the ends of the quills with a black bar, the inner secondaries green; tail-feathers greenish blue with black shafts, the inner webs dusky as well as the ends of the feathers; crown of head and neck light chestnut or bay, extending over the mantle; lores blackish; ear-coverts chestnut; cheeks and throat yellow, succeeded by a line of black, separated from a yellow patch on the fore neck by a greenish-blue shade; remainder of under surface of body pale emerald-green; the breast and flanks slightly washed with yellow, the abdomen becoming gradually more blue, the under tail-coverts pale sea-blue; under wing-coverts and quill-lining rufous or pale chestnut. Total length 7·2 inches, culmen 1·25, wing 3·95, tail 3·05, tarsus 0·4.

Adult female. Similar to the male. Total length 7·7 inches, culmen 1·3, wing 3·75, tail 3·3, tarsus 0·4.

Hab. Confined to the island of Java.

a. Ad. sk.	Java (*Horsfield*).	India Museum.
b, c. ♂ ♀ ad. sk.	Java (*Diard*).	Salvin-Godman Coll.
d, e. Ad. sk.	Java.	Tweeddale Coll.

13. Melittophagus swinhoii.

? Le Guêpier à teste rouge des Indes, *Briss. Orn.* iv. p. 563, pl. 44 fig. 3 (1760).
? Le Guêpier à tête rouge, *Montb. Hist. Nat. Ois.* vi. p. 508 (1779).
? Red-headed Bee-eater, *Shaw & Nodder, Nat. Misc.* pl. 357 (1778); *Lath. Gen. Syn.* i. pt. 2, p. 679 (1782).
? Merops erythrocephalus, *Gm. S. N.* i. p. 463 (1788).
Merops urica (*nec Horsf.*), *Swains. Zool. Ill.* pl. 8 (1820, fig. male).
Merops quinticolor (*nec V.*), *Hodgs. Icon. ined. in Brit. Mus. Passeres*, pl. 22. fig. 1, no. 561; *id. in Gray's Zool. Misc.* p. 82 (1844); *Gray, Cat. Mamm. etc. Nepal pres. Hodgs.* p. 57 (1846); *id. Gen. B.* i. p. 86 (1846); *id. List Fissir. Brit. Mus.* p. 70 (1848, pt.); *Bp. Consp.* i. p. 163 (1850); *Kelaart, Prodr. Cat.* p. 199 (1852); *Horsf. & Moore, Cat. B. E. I. Co. Mus.* i. pp. 88, 416

(1854, pt.); *Moore, P. Z. S.* 1854, p. 264; *Gould, B. Asia*, i. pl. 34 (1856); *Jerd. B. Ind.* i. p. 208 (1862); *Schl. Mus. Pays-Bas*, Merops, p. 9 (1863, pt.); *Blyth, Ibis*, 1866, p. 344; *Beav. Ibis*, 1867, p. 318; *Gray, Hand-l. B.* i. p. 100, no. 1216 (1869); *Blanf. Ibis*, 1870, p. 465; *Elwes, t. c.* p. 527; *Wald. Ibis*, 1871, p. 301; *Holdsw. P. Z. S.* 1872, p. 423; *Jerd. Ibis*, 1872, p. 3; *Swinh. Ibis*, 1873, p. 231; *Ball, Str. F.* 1873, p. 57; *Kelh. Ibis*, 1881, p. 377.

Merops erythrocephalus, *Blyth, Cat. B. Mus. As. Soc.* p. 53 (1849); *Swinh. P. Z. S.* 1871, p. 248; *Blyth & Wald. B. Burm.* p. 72 (1875).

Merops (Urica) quinticolor, *Bp. Consp. Volucr. Anis.* p. 8 (1854).

Merops swinhoii, *Hume, Nests & Eggs Ind. B.* p. 102 (1873); *id. Str. F.* ii. p. 163 (1874); *Ball, t. c.* p. 386; *Hume, Str. F.* iii. p. 50 (1875); *Fairb. Str. F.* iv. p. 254 (1874); *Armstr. t. c.* p. 305; *Hume, Str. F.* v. p. 18 (1877); *Ball, Str. F.* vii. p. 203 (1878); *Hume, t. c.* p. 456; *Legge, B. Ceylon*, p. 312 (1878); *Hume, Str. F.* 1879, pp. 48, 85; *Vidal, Str. F.* ix. p. 49 (1880); *Bingham, t. c.* p. 153; *Davison, Str. F.* x. p 350 (1883); *Parker, Ibis*, 1886, p. 184; *Taylor, Str. F.* x. p. 456 (1887); *Terry, Str. F.* x. p. 470 (1887); *Hume, Str. F.* xi. p. 42 (1888).

Merops leschenaulti (*nec V.*), *Fairb. Str. F.* v. p. 394 (1877); *Anderson, Rep. Zool. Exped. Yun-nan*, p. 582 (1878); *Hume & Davison, Str. F.* vi. pp. 68, 498 (1878).

Melittophagus leschenaulti (*nec V.*), *Oates, Handb. B. Brit. Burm.* ii. p. 68 (1883).

Melittophagus quinticolor, *Dresser, Monogr. Merop.* p. 115, pl. 26 (1885); *Oates, ed. Hume's Nests & Eggs Ind. B.* iii. p. 67 (1891).

Adult male. Similar to *M. leschenaulti*, but easily distinguished by the chestnut colour of the lower throat, preceding the black collar across the neck: "bill black; legs dusky black, claws dark horn-colour; iris crimson" (*E. W. Oates*). Total length 7·5 inches, culmen 1·3, wing 4·25, tail 2·9, tarsus 0·4.

Adult female. Similar to the male in colour. Total length 7 inches, culmen 1·35, wing 4·1, tail 2·75, tarsus 0·4.

Hab. Indian Peninsula and Ceylon, the islands in the Bay of Bengal, ranging through the Burmese countries to Siam and Cochin China, and into the Malayan Peninsula.

a, b, c. Ad. sk.	Ceylon, Nov. (*S. Chapman & H. Nevill*).	Tweeddale Coll.
d. ♂ ad. sk.	N.W. Ceylon, Feb.	Colonel Legge [P.].
e. Ad. sk.	Travancore, Feb.	F. Bourdillon, Esq. [C.].
f, g. Ad. sk.	Anjango, Dec.	Hume Coll.
h. Ad. sk.	Malabar.	Tweeddale Coll.
i, k. ♂ ad. sk.	Coonoor, Feb., April (*F. Day*).	Hume Coll.
l, m. ♂ ♀ ad. sk.	Burliar, Coonoor Ghat, April (*R. G. W. R.*).	Tweeddale Coll.
n. ♂ ad. sk.	Seegore, April (*W. Davison*).	Hume Coll.
o, p. Ad. sk.	Madras.	Rev. H. H. Baber [P.].
q. Ad. st.	Madras.	Rev. H. H. Baber [P.].
r. Ad. sk.	Dehra Dhoon.	Tweeddale Coll.

s. ♂ ad. sk.	Kalsi, Dhoon, Nov.	Hume Coll.
t, *u*. Ad. et juv. sk.	Nepal.	Hodgson Coll.
v–*z*. Ad. sk.	Bhotan Doars, April (*L. Mandelli*).	Hume Coll.
a'. Ad. sk.	Gowhatti, Assam.	Hume Coll.
b'–*f'*. ♂ ad.	Sadhya, May, June (*J. Cockburn*).	Hume Coll.
g'. ♂ ad. sk.	N. Khasia Hills, Feb. (*A. W. Chennell*).	Tweeddale Coll.
h'. Ad. sk.	Mymensing.	Tweeddale Coll.
i'. Ad. sk.	Cachar.	Hume Coll.
k', *l'*, *m'*. ♂ ad.; *n'*, *o'*. ♀ ad. sk.	Commillah, Tippera, March, May (*V. Irvin*).	Hume Coll.
p', *q'*. ♂ ♀ ad. sk.	Akyab, March (*J. Armstrong*).	Hume Coll.
r'. ♂ ad. sk.	Thayetmyo.	Hume Coll.
s', *t'*. Ad. sk.	Pegu, Jan.	Oates Coll.
u'. ♂ ad. sk.	Second defile of Irrawaddy, March.	Dr. J. Anderson [C.].
v', *w'*. ♂ ♀ ad. sk.	Rangoon, Nov., Dec. (*R. G. W. R.*).	Tweeddale Coll.
x', *y'*. Ad. sk.	Karen Hills, Nov. (*R. G. W. R.*).	Tweeddale Coll.
z'. Ad. sk.	Karen-nee, March (*R. G. W. R.*).	Tweeddale Coll.
a''. Ad. sk.	Tonghoo, Sept. (*R. G. W. R.*).	Tweeddale Coll.
b'', *c''*. ♂ ♀ ad. sk.	Pahpoon, Jan. (*W. Davison*).	Hume Coll.
d'', *e''*. ♀ ad. sk.	Kaukaryit, Oct., Jan.	Hume Coll.
f''. ♀ ad. sk.	Assoon, Feb. (*W. Limborg*).	Tweeddale Coll.
g''. ♂ ad. sk.	E-po, Jan. (*W. D.*).	Hume Coll.
h''. ♂ ad. sk.	Meetan, Feb. (*W. D.*).	Hume Coll.
i'', *k''*, *l''*. ♂ ad.; *m''*. ♀ ad. sk.	Amherst, Dec., Jan.	Hume Coll.
n''. Ad. sk.	Salween Distr. (*W. D.*).	Hume Coll.
o''. ♂ ad. sk.	Moulmein, March (*W. D.*).	Hume Coll.
p''. Ad.; *q''*, *r''*. ♀ ad. sk.	Tavoy, March, April (*J. Darling*).	Hume Coll.
s'', *t''*. ♂ ♀ ad. sk.	Mergui, Nov., Jan. (*W. D.*).	Hume Coll.
u''. Ad. sk.	Palaw-ton-ton, Dec. (*W. D.*).	Hume Coll.
v'', *w''*. ♂ ad.; *x''*. ♀ ad. sk.	Bankasoon, Nov., Dec. (*W. D.*).	Hume Coll.
y''. ♀ ad. sk.	Malewoon, Dec.	Oates Coll.
z''. Ad. sk.	Saigon, Cochin China.	M. E. Pierre [P.].
a^3. Ad. sk.	Canton, China.	Tweeddale Coll.
b^3. ♀ ad. sk.	Kossoum, May (*J. Darling*).	Hume Coll.
c^3–f^3. ♂ ad.; g^3, h^3. ♀ ad. sk.	Tongka, Jan. (*J. D.*).	Hume Coll.
i^3–x^3. ♂ ad. et imm.; y^3–l^4. ♀ ad. et imm. sk.	Salang, Feb., March (*J. D.*).	Hume Coll.
m^4, n^4. ♂ ad.; o^4–s^4. ♀ ad. sk.	Taroar, Feb. (*J. D.*).	Hume Coll.
t^4, u^4. Ad. sk.	Penang (*Dr. Cantor*).	India Museum.
v^4. Ad. sk.	Penang, Nov. 27 (*W. D.*).	Hume Coll.
w^4. Ad. sk.	Province Wellesley, Dec.	Dr. A. McKinlay, [P.].
x^4, y^4. ♂ ad.; z^4, a^5. ♀ ad. sk.	South Andamans, May, July, Sept. (*R. J. Wimberley*).	Hume Coll.

b^5, c^5, d^5. ♂ ad.; e^5, f^5, g^5. ♀ ad. sk.	South Andamans, Jan., Feb. (*R. G. W. R.*).	Tweeddale Coll.
h^5. ♂ ad. sk.	Aberdeen, S. A., April (*W. Davison*).	Hume Coll.
i^5, k^5, l^5. ♂ ad. sk.	Port Mouat, S. A., April (*W. D.*).	Hume Coll.
m^5, n^5, o^5. ♂ ad.; p^5, q^5. ♀ ad. sk.	Mount Harriet, S. A., Dec., March (*W. D.*).	Hume Coll.
r^5, s^5. ♂ ♀ ad. sk.	Port Blair, S. A., July, Sept.	Hume Coll.
t^5. Sternum.	Irawady River.	Dr. J. Anderson [C.].

3. MEROPS.

	Type.
Merops, *Linnæus, Syst. Nat.* i. p. 182 (1766)	M. apiaster.
Melittotheres, *Reichenb. Handb., Merop.* p. 82 (1852)	M. nubicus.
Tephraerops, *Reichenb. t. c.* p. 82	M. malimbicus.
Melittophas, *Reichenb. t. c.* p. 82	M. bicolor.
Aerops, *Reichenb. t. c.* p. 82	M. albicollis.
Phlothrus, *Reichenb. t. c.* p. 82	M. viridis.
Blepharomerops, *Reichenb. t. c.* p. 82	M. persicus.
Cosmaerops, *Cab. & Heine, Mus. Hein.* Th. ii. p. 138 (1860)	M. ornatus.
Bombylonax, *Heine, J. f. O.* 1859, p. 434	M. breweri.
Archimerops, *Hartl. Arch. f. Naturg.* xxvi. p. 90 (1860)	M. breweri.

Range. Nearly the whole of the Old World.

Key to the Species.

A. With no chestnut on the under surface of the tail-feathers.
  a. Breast green or blue, of a dark or light shade.
    a'. Back and scapulars chestnut, as well as the wings; head purplish blue, like the breast and abdomen ..... *muelleri*, p. 59.
    b'. Scapulars green or ochre-yellow.
      a''. Mantle chestnut, like the head.
        a'''. Scapulars green; lower back, rump, and upper tail-coverts silvery cobalt; tail blue.
          a^4. Head and mantle light bay ..... *bicolor*, p. 60.
          b^4. Head and mantle deep chestnut .. *sumatranus*, p. 61.
        b'''. Scapulars ochreous yellow, like the lower back and rump; upper tail-coverts and tail green ..... *apiaster*, p. 63.
      b''. Mantle green.
        c'''. Upper throat yellow, succeeded by chestnut.
          c^4. No black on the fore neck; tail blue or green.
            a^5. Tail green.
              a^6. Forehead, eyebrow, and cheek-stripe blue; head light green. *persicus*, p. 66.

b^6. Forehead, eyebrow, and cheek-stripe white; head brown, contrasting with the green back ..... *superciliosus*, p. 70.
b^5. Tail blue, as well as upper tail-coverts ..... *philippinus*, p. 71.
d^4. A broad black patch on the fore neck; tail black, the centre feathers washed or edged with greenish blue ..... *ornatus*, p. 74.
d'''. Throat without any yellow.
e^4. No blackish terminal band on the tail, but with black on the fore neck.
c^5. Throat white, followed by a broad band of black; head black ..... *albicollis*, p. 76.
f^4. Throat green or blue, followed by a narrow line of black; head green or reddish washed with green.
c^6. No blue on the forehead or eyebrow; throat sometimes light blue, but more often green ..... *viridis*, p. 78.
d^6. A narrow line of blue along the base of the forehead and over the eye ..... *muscatensis*, p. 82.
e^6. A broad blue forehead and eyebrow ..... *cyanophrys*, p. 83.
g^4. A blackish terminal band on the tail; head light chestnut; throat reddish fawn-colour ..... *boehmi*, p. 83.
b. Breast pink or rose-colour.
c'. Back crimson-pink; head bluish green; lower back and rump bright cobalt.
c''. Throat pink, like the rest of the under surface ..... *natalensis*, p. 84.
d''. Throat bluish green, contrasting with pink breast ..... *nubicus*, p. 85.
d'. Back dark ashy; chin and cheeks white . *malimbicus*, p. 86.
B. With chestnut on the inner webs of the tail-feathers underneath; back green; head and throat black ..... *breweri*, p. 86.

1. Merops muelleri *.

Meropiscus muelleri, *Cassin, Journ. Philad. Acad.* 1857, p. 37; *Cab. & Heine, Mus. Hein.* Th. ii. p. 132, note (1860).
Merops muelleri, *Hartl. Orn. W.-Afr.* p. 262 (1857).

* From the strong contrast of its colours and from its general appearance, this species looks like a *Melittophagus*, in which genus it has been placed by Mr. Dresser; but if *Melittophagus* is to be kept distinct from *Merops*, then *M. muelleri* must be referred to the latter genus, as it has the central tail-feathers elongated.

Meropogon muelleri, *Cassin, Journ. Philad. Acad.* (2) iv. p. 322, pl. 49. fig. 2 (1860).
Nyctiornis muelleri, *Gray, Hand-l. B.* i. p. 98, no. 1198 (1869).
Melittophagus muelleri, *Dresser, Monogr. Merop.* p. 127, pl. 30 (1885).

Adult. General colour above dark chestnut or maroon, the scapulars like the back, as also the lower back; rump and upper tail-coverts deep ultramarine; wing-coverts dull chestnut; primary-coverts dusky brown; quills chestnut, edged with dusky brown, and dusky at the ends, especially of the primaries; the inner secondaries chestnut, greyish green along their inner webs; centre tail-feathers dusky ultramarine, the remainder black, washed externally with blue; crown of head and nape ultramarine, brighter blue on the eyebrow; the forehead bright cobalt; lores black; sides of face and ear-coverts ultramarine, brighter blue on the fore part of the cheeks; throat bright scarlet; sides of neck ultramarine; lower throat and fore neck black; chest ultramarine, the remainder of the under surface brighter and more cobalt-blue, including the under tail-coverts; under wing-coverts and inner lining of quills pale chestnut.

Hab. West Africa, from the forests of the Gold Coast to Gaboon.

a. Ad. sk.	Fantee (*Aubinn*).	Sharpe Coll.
b. Ad. sk.	Gold Coast.	Shelley Coll.

2. **Merops bicolor.**

Le Guespier de l'isle de France, *Briss. Orn.* iv. p. 543, pl. 44. fig. 2 (1760); *Daubent. Pl. Enl.* vi. p. 252.
Le Petit Guespier des Philippines, *Briss. t. c.* p. 555, pl. 43. fig. 2 (1760).
Le Guêpier marron et blue, *Montb. Hist. Nat. Ois.* vi. p. 493 (1779).
Merops americanus, *P. L. S. Müll. Syst. Nat. Suppl.* p. 95 (1776); *Cass. Proc Philad. Acad.* 1864, p. 243.
Chestnut Bee-eater, *Lath. Gen. Syn.* i. pt. 2, p. 677 (1782).
Merops bicolor, *Bodd. Tabl. Pl. Enl.* p. 15 (1783); *Wald. Trans. Zool. Soc.* ix. p. 150, pl. xxvi. fig. 1 (1875); *Tweedd. P. Z. S.* 1877, pp. 540, 690, 757, 822; *id. P. Z. S.* 1878, pp. 282, 340; *Dresser, Monogr. Merop.* p. 27, pl. 7 (1884); *Steere, List B. & Mamm. Philipp.* p. 9 (1890).
Merops badius, *Gm. Syst. Nat.* i. p. 462 (1788); *Gray, Gen. B.* i. p. 86 (1846); *Reichenb. Handb., Merop.* p. 75, Taf. 449. fig. 3244 (1852).
Merops castaneus, *Lath. Ind. Orn.* i. p. 273 (1790); *Vieill. N. Dict. d'Hist. Nat.* xiv. p. 18 (1817).
Le Guêpier marron et bleu, ou Le Guêpier Latreille, mâle, *Levaill. Hist. Nat. Guêpiers*, iii. p. 45, pl. 12 (1807).
Merops hypoglaucus, *Reichenb. Handb., Merop.* p. 76, Taf. 449. fig. 3245 (1852).
Melittophas badius, *Reichenb. t. c.* p. 82 (1852).
Melittophas hypoglaucus, *Reichenb. t. c.* p. 82 (1852).
Merops ornatus (*nec Lath.*), *Von Martens, J. f. O.* 1866, p. 17.

Adult male. Back and scapulars green, as well as the wing-

coverts; lower back, rump, and upper tail-coverts silvery blue; quills green, all but the innermost secondaries with a black bar at the ends, the inner web rufous fawn-colour; tail-feathers blue, with black shafts and narrow blackish ends, the two centre feathers with a black end of about an inch long; entire crown, hind neck, and mantle bay or bright chestnut, as well as the sides of the neck; lores, feathers below the eye, and ear-coverts black; cheeks light cobalt; under surface of body emerald-green, washed with blue on the throat; under tail-coverts light cobalt-blue; under wing-coverts and quill-lining fawn-colour: "bill black; feet brown; iris crimson" (*A. Everett*). Total length 10·5 inches, culmen 1·6, wing 4·25, tail 3·2, centre tail-feathers 5·5, tarsus 0·4.

Adult female. Similar to the male. Total length 11 inches, culmen 1·6, wing 4·75, tail 3·6, centre tail-feathers 6·3, tarsus 0·35.

Young. Differs from the adults in being duller and greener, the red of the head being overshaded with green and the mantle and upper back green; the under surface is paler, the throat and abdomen pale blue and the breast light green.

Hab. Confined to the Philippine Archipelago.

a. Ad. st.	Philippine Islands.	India Museum.
b, c. Ad. sk.	Manila.	Gould Coll.
d, e. ♂ ♀ ad. sk.	Luzon, April (*A. B. Meyer*).	Tweeddale Coll.
f. ♂ ad. sk.	Monte Alban, March (*A. H. Everett*).	Tweeddale Coll.
g. Ad. sk.	Panay.	Prof. Steere [C.].
h, i. ♂ ad.; *k.* imm. sk.	Valencia, Negros, Aug. (*A. H. Everett*).	Tweeddale Coll.
l. ♂ ad. sk.	Placer, July (*A. H. Everett*).	Tweeddale Coll.
m. ♀ ad. sk.	Butuan, May (*A. H. Everett*).	Tweeddale Coll.
n, o. ♂ ad. sk.	S. Leyte, Sept. (*A. H. Everett*).	Tweeddale Coll.
p. ♂ ad. sk.	Cebu, March (*A. H. Everett*).	Tweeddale Coll.
q. ♂ ad. sk.	Zamboanga.	Voy. H.M.S. 'Challenger.'

3. Merops sumatranus.

Merops sumatranus, *Raffl. Trans. Linn. Soc.* xii. p. 294 (1821); *Gray, Gen. B.* i. p. 86 (1846); *Blyth, Cat. B. Mus. As. Soc.* p. 53 (1849); *Gould, P. Z. S.* 1850, p. 151; *Walden, Trans. Z. S.* ix. p. 151, pl. xxvi. fig. 2 (1875); *Tweedd. Ibis*, 1877, pp. 7, 297; *Sharpe, Ibis*, 1879, p. 248; *Hume, Str. F.* viii. p. 48 (1879); *Tiraut, Bull. Soc. Comm. Agric. Cochin Chine*, (3) i. p. 98 (1879); *Sharpe, P. Z. S.* 1879, p. 329, 1881, p. 793; *Nicholson, Ibis*, 1882, p. 56, 1883, p. 243; *Dresser, Monogr. Merop.* p. 23, pl. 6 (1884).

Merops cyanopygius, *Less. Traité*, p. 238 (1831).

Merops badius (*nec Gm.*), *Bp. Consp.* i. p. 162 (1850); *Horsf. & Moore, Cat. B. Mus. E. I. Co.* i. p. 87 (1854); *Moore, P. Z. S.* 1854, p. 264; *Motley & Dillw. Nat. Hist. Labuan*, p. 14 (1855); *Scl. P. Z. S.* 1863, p. 213; *Schl. Mus. Pays-Bas*, Merops, p. 3 (1863); *Kelham, Ibis*, 1881, p. 377.

Merops bicolor (*nec Bodd.*), *Gray, Hand-l. B.* i. p. 99, no. 1202 (1869); *Salvad. Ucc. Born.* p. 90 (1874); *Sharpe, P. Z. S.* 1875, p. 101; *id. Ibis*, 1876, p. 33, 1877, p. 5; *David & Oust. Ois.*

Chine, p. 73 (1877); *Vorderm. Nat. Tijdschr. Nederl. Ind.* xliv. p. 191 (1885), xlvi. p. 69 (1887).
Merops rochechouardi, *Heude, Ann. Sci. Nat.* 1873 (*teste Dresser*).

Adult male. Differs from *M. bicolor* in having the head and mantle deep chestnut instead of bay, and in having the throat more constantly bluish: "bill black; feet blackish; iris dragon's blood red" (*A. Everett*). Total length 11 inches, culmen 1·55, wing 4·4, tail 3, centre tail-feathers 5, tarsus 0·4.

Adult female. Similar to the male in colour. Total length 9·5 inches, culmen 1·35, wing 4, tail 3, tarsus 0·4.

Young. Entirely green above, excepting the light blue lower back and rump; chin and upper throat white, washed with yellow; hinder cheeks and throat blue; fore neck and breast green, becoming light blue on the abdomen and under tail-coverts.

Hab. From Southern China to Cochin China and Siam, the Malayan Peninsula, Java, Sumatra, and Borneo.

a. Ad. sk.	Penang (*Dr. Cantor*).	India Museum.
b, *c*. ♂ ad. sk.	Ding-Ding Islands, Feb. (*W. Davison*).	Hume Coll.
d, *e*. ♂ ♀ ad. sk.	Langat, Salangore, April (*W. D.*).	Hume Coll.
f, *g*. ♂ ad.; *h*, *i*. ♀ ad. sk.	Klang, Nov., May, June (*W. Davison*).	Hume Coll.
k. Imm. st.	Malacca.	Purchased.
l. Ad. sk.	Malacca.	Purchased.
m–*x*. Ad. et imm. sk.	Malacca, July, Aug. (*W. D.*).	Hume Coll.
z. Imm. sk.	Malacca, Nov. (*Dr. Maingay*).	Tweeddale Coll.
a', *b'*. ♂ ad. sk.	Chohong, Oct. (*W. Davison*).	Hume Coll.
c'–*e'*. ♂ ad. et imm.; *f'*–*h'*. ♀ ad. et imm. sk.	Pulo Seban, Oct. (*W. D.*).	Hume Coll.
i'–*v'*. ♂ ad. et imm.; *w'*–*z'*. ♀ ad. et imm. sk.	Kuroo, Oct., Nov. (*W. D.*).	Hume Coll.
a'', *b''*. ♀ ad. et imm. sk.	Singapore Island, Aug. (*W. D.*).	Hume Coll.
c''. Ad. sk.	Sumatra (*Raffles*).	Gould Coll. (Type of species.)
d''. Ad. sk.	Sumatra.	Wallace Coll.
e'', *f''*, *g''*. ♂ ad. et imm. sk.	Sumatra (*C. Bock*).	Tweeddale Coll.
h''–*l''*. Ad. et imm. sk.	Lampong (*E. C. Buxton*).	Tweeddale Coll.
m''. Ad. sk.	Sarawak (*A. H. Everett*).	Tweeddale Coll.
n''. ♀ ad. sk.	Near Belidah, May (*A. H. E.*).	Wallace Coll.
o'', *p''*, *q''*. Ad.; *r''*. Juv. sk.	Labuan (*Sir H. Low*).	Dr. R. B. Sharpe [P.].
s''. Ad. sk.	Brunei River, N.W. Borneo.	Bassett Smith, Esq. [P.].
t''. Ad. sk.	Banjarmassing (*J. Motley*).	Wallace Coll.

4. Merops apiaster.

The Bee-eater, *Albin, Nat. Hist. B.* ii. p. 40, pl. 44 (1738); *Yarr. Brit. B.* ii. p. 200 (1843).

Le Guespier, *Brisson, Orn.* iv. p. 532 (1760); *Daubent, Pl. Enl.* vi. p. 938; *Montb. Hist. Nat. Ois.* vi. p. 480, pl. 23 (1779).

Le Guespier à teste jaune, *Briss. Orn.* iv. p. 537 (1760).

Merops apiaster, *Linn. Syst. Nat.* i. p. 182 (1766); *Gm. Syst. Nat.* i. p. 460 (1788); *Licht. Cat. rer. nat. rariss.* p. 21 (1793); *Pall. Zoogr. Rosso-Asiat.* i. p. 440 (1811); *Temm. Man. d'Orn.* p. 420 (1815); *Vieill. N. Dict. d'Hist. Nat.* xiv. p. 11 (1817); *Naum. Vög. Deutschl.* v. p. 462, pl. 143 (1826); *Roux, Orn. Prov.* pl. 241 (1825); *Werner, Atlas,* Alcyons, pl. 2 (1827); *Brehm, Vög. Deutschl.* p. 147 (1831); *Ménétr. Cat. rais. Cauc.* p. 45 (1832); *Smith, S. Afr. Q. Journ.* (2) pt. 2, p. 319 (1834); *Swains. B. W. Afr.* ii. p. 76 (1837); *Gould, B. Eur.* ii. pl. 59 (1837); *Dickson & Ross, P. Z. S.* 1839, p. 119; *Macgill. Hist. Br. B.* iii. p. 685 (1840); *Crespon, Orn. Gard.* p. 290 (1840); *Keys. u. Blas. Wirb. Eur.* p. 35 (1840); *Nordm. in Demid. Voy. Russ. Mérid.* p. 205 (1840); *Vigors, P. Z. S.* 1841, p. 6; *Selys-Longch. Faune Belge,* p. 107 (1842); *Muhle, Orn. Griechenl.* p. 32 (1844); *Schl. Rev. Crit.* p. 52 (1844); *Rüpp. Syst. Uebers.* p. 23 (1845); *Gray, Gen. B.* i. p. 86 (1846); *id. List Fissir. Brit. Mus.* p. 68 (1848); *Thomps. B. Irel.* i. p. 367 (1849); *Blyth, Cat. B. Mus. As. Soc.* p. 51 (1849); *Bp. Consp.* i. p. 160 (1850); *Harcourt, P. Z. S.* 1851, p. 145; *Reichenb. Handb., Merop.* p. 61, Taf. 443. figs. 320–322 (1852); *Kjærb. Orn. Dan.* taf. 13. fig. 2 (1852); *Bp. Consp. Volucr. Anis.* p. 8 (1854); *Hewits. Eggs Brit. B.* i. p. 254, pl. 64. fig. 2 (1856); *Sundev. Svensk. Fogl.* p. 160, pl. 70. fig. 1 (1856); *Heugl. Syst. Uebers.* p. 19 (1856); *Bolle, J. f. O.* 1857, p. 324; *Hartl. Orn. Westafr.* p. 38 (1857); *Adams, P. Z. S.* 1858, p. 474, 1859, p. 74; *Jaub. et Barth.-Lapomm.* p. 323 (1859); *Salvin, Ibis,* 1859, p. 303; *Tristr. t. c.* p. 435; *E. Newt. t. c.* p. 462; *Tristr. Ibis,* 1860, p. 161; *Linderm. Vög. Griechenl.* p. 44 (1860); *Powys, Ibis,* 1860, p. 235; *Simpson, t. c.* p. 393; *Cab. & Heine, Mus. Hein.* Th. ii. p. 141 (1860); *Hartl. J. f. O.* 1861, p. 106; *Blas. Ibis,* 1862, p. 65; *Trist. t. c.* p. 278; *Allen, t. c.* p. 359; *Homeyer, J. f. O.* 1862, p. 255; *Jerd. B. Ind.* i. p. 210 (1862); *Gray, List Br. B.* p. 37 (1863); *Schl. Mus. Pays-Bas,* Merops, p. 4 (1863); *Chambers, Ibis,* 1863, p. 476; *Wright, Ibis,* 1864, p. 73; *Sperling, t. c.* p. 282; *Filippi, Viagg. Pers.* p. 346 (1865); *Gigl. Ibis,* 1865, p. 52; *Lilford, t. c.* p. 175; *Tristr. Ibis,* 1866, p. 81; *Lilford, t. c.* p. 178; *Blyth, t. c.* p. 344; *Layard, B. S. Afr.* p. 68 (1867); *Chambers, Ibis,* 1867, p. 104; *Drake, t. c.* p. 425; *Gould, B. Gt. Brit.* ii. pl. 9 (1867); *Degl. & Gerbe, Orn. Eur.* i. p. 172 (1867); *Loche, Expl. Sci. Algér., Ois.* ii. p. 90 (1867); *Meves, Œfv. K. Vet.-Akad. Förh. Stockh.* 1868, p. 264; *Gray, Hand-l. B.* i. p. 99, no. 1201 (1869); *Heugl. Orn. N.O.-Afr.* i. p. 196 (1869); *Doderl. Avif. Sicil.* p. 55 (1869); *Saunders, Ibis,* 1869, p. 185; *Borggr. Vogelf. Norddeutschl.* p. 69 (1869); *Wyatt, Ibis,* 1870, p. 12; *Elwes & Buckley, t. c.* p. 189; *Fritsch, Vög. Eur.* p. 88, pl. 14. fig. 3 (1870); *Blanf. Geol. & Zool. Abyss.* p. 320 (1870); *Finsch, Trans. Z. S.* vii. p. 223 (1870); *Salvad. Faun. Ital. Ucc.* p. 44 (1871); *Saunders, Ibis,* 1871, p. 67; *Gurney, t. c.* p. 74; *Gray, B. W. Scotl.* p. 203 (1871); *Harting, Handb. Br. B.* p. 34 (1872); *Shelley, B. Egypt,* p. 169 (1872); *Gurney, in Anderss. B. Dam. Ld.* p. 60 (1872); *Brooks, J. A. S. Beng.* xli. p. 73 (1872); *Jerd.*

Ibis, 1872, p. 3; *Marshall, t. c.* p. 203; *G. C. Taylor, Ibis*, 1872, p. 230; *Brooke, Ibis*, 1873, p. 236; *Hume, Nests & Eggs Ind. B.* p. 103 (1873); *Antin. & Salvad. Viagg. Bogos*, p. 65 (1873); *Severtz. Turkest. Jevotn.* p. 68 (1873); *Wright, Ibis*, 1874, p. 237; *Buckley, t. c.* p. 363; *Irby, B. Gibr.* p. 65 (1875); *Shelley, Ibis*, 1875, p. 69; *Danf. & Harvie Brown, t. c.* p. 300; *Fallon, Ois. Bely.* p. 121 (1875); *Blanf. East. Persia*, ii. p. 122 (1876); *Wharton, Ibis*, 1876, p. 19; *Dresser, t. c.* p. 319; *id. B. Eur.* v. p. 155, pl. 295 (1877); *Finsch, Ibis*, 1877, p. 52; *Danf. t. c.* p. 272; *Newt. ed. Yarr. Br. B.* ii. p. 435 (1878); *Finsch, Verh. z.-b. Ges. Wien*, xxix. p. 153 (1879); *Wardlaw Ramsay, Ibis*, 1879 p. 446; *Hume, Str. F.* viii. p. 85 (1879); *Finsch, Verh. z.-b. Ges. Wien*, xxi. p. 154 (1879); *Wardlaw Ramsay, Ibis*, 1880, p. 49; *Bidd. Ibis*, 1881, p. 48; *Bocage, Orn. Angola*, p. 86 (1881); *Sharpe in Oates' Matabele Ld.* App. p. 301 (1881); *Shelley, P. Z. S.* 1881, p. 568; *C. Swinh. Ibis*, 1882, p. 102; *Seeb. t. c.* p. 209; *Tristr. t. c.* pp. 411, 417; *Dixon, t. c.* p. 560; *Holub & Pelz. Beitr. Orn. Südafr.* p. 65 (1882); *B. O. U. List Br. B.* p. 82 (1883); *Seeb. Ibis*, 1883, p. 21; *Homeyer & Tancré, MT. orn. Ver. Wien*, 1883, p. 83; *Sharpe, ed. Layard's B. S. Afr.* pp. 96, 804 (1884); *Chapm. Ibis*, 1884, p. 69; *Clarke, t. c.* p. 144; *Ayres, t. c.* p. 223; *Dresser, Monogr. Merop.* p. 75, pl. 18 (1884); *Tristr. Faun. & Flor. Palest.* p. 88 (1884); *Salvad. Ann. Mus. Civic. Genov.* (2) i. p. 107 (1884); *Seeb. Hist. Br. B.* ii. p. 321 (1884); *Radde, Orn. Cauc.* p. 319 (1884); *Madarász, Zeitschr. ges. Orn.* i. p. 153 (1884); *Murray, Vertebr. Faun. Sind*, p. 108 (1884); *Whitehead, Ibis*, 1885, p. 27; *Ayres, t. c.* p. 342; *Sharpe, Ibis*, 1886, pp. 487, 498; *Souza, Jorn. Lisb.* 1886, no. 46, p. 2; *Gigl. Avif. Ital.* p. 216 (1886); *Tait, Ibis*, 1887, p. 307; *Salvad. Elenc. Ucc. Ital.* p. 74 (1887); *Reichen. J. f. O.* 1887, p. 300; *Guillem. Ibis*, 1888, p. 112; *Cordeaux, t. c.* pp. 221, 223; *Lilford, Col. Fig. B. Brit. Isl.* part ix. (1888); *Sharpe, Tr. Linn. Soc.* (2) v. pt. 3, p. 84 (1889); *St. John, Ibis*, 1889, p. 157; *Lilford, t. c.* p. 331; *Waldo, t. c.* p. 509; *Sharpe, Rep. 2nd Yarkand Mission, Aves*, p. 114 (1891).

Merops congener, *Linn. Syst. Nat.* i. p. 183 (1766); *Gm. Syst. Nat.* i. p. 46 (1788).

L'Icterocephale ou le Guêpier à tête jaune, *Montb. Hist. Nat. Ois.* vi. p. 510 (1779).

? Le Grand Guêpier vert et blanc à gorge jaune, *Montb. t. c.* p. 502 (1779).

Common Bee-eater, *Lath. Gen. Syn.* i. pt. 2, p. 667 (1782).

Yellow-headed Bee-eater, *Lath. t. c.* p. 672 (1782).

? Yellow-throated Bee-eater, *Lath. t. c.* p. 678 (1782).

Le Guêpier vulgaire, *Levaill. Hist. Nat. Guêpiers*, iii. p. 21, pls. 1, 2 (1807).

? Merops chrysocephalus, *Steph. in Shaw's Gen. Zool.* viii. p. 176 (1811); *Vieill. N. Dict. d'Hist. Nat.* xiv. p. 25 (1817).

Merops apiarius, *Steph. op. cit.* xiii. pt. 2, p. 73 (1825).

Merops hungariæ, *Brehm, Vög. Deutschl.* p. 146 (1831).

Merops elegans, *Brehm, Vogelf.* p. 50 (1855).

Adult male. Forehead white, succeeded by a blue line which joins a narrow eyebrow of blue shading into green and is separated by a green shade from the crown of the head and hind neck, which are chestnut, this colour overspreading the mantle and fading into the creamy buff of the scapulars and back, the lower back being

washed with blue; upper tail-coverts pale blue; lesser wing-coverts green, the remainder light chestnut like the secondaries, the latter black at the ends; primaries blue, blackish towards the tips, the inner secondaries green, becoming blue towards the tips; centre tail-feathers blue, greener towards the base, the remainder of the feathers green with blue edges; lores and a streak surrounding the eye and embracing the ear-coverts black; fore part of cheeks blue, the hinder cheeks white; throat bright yellow, succeeded by a black band across the lower throat; remainder of under surface from the lower throat downwards greenish blue, the abdomen rather paler; under wing-coverts and axillaries ochreous buff, washed with green along the edge of the wing; quills dusky below, ochreous buff along the inner web: "bill black; feet greyish brown; iris lemon-yellow" (*H. Guillemard*). Total length 10 inches, culmen 1·65, wing 5·7, tail 4·5, tarsus 0·35.

Adult female. Very similar to the male in colour, but sometimes a little more washed with green on the head and back. Total length 9·5 inches, culmen 1·5, wing 5·9, tail 4·2, tarsus 0·45.

Young after first moult. Very much paler than the adults, greener below, and wanting the black bar across the lower throat; eyebrow green; the whole of the chestnut of the head and mantle obscured by a wash of green, and the light parts of the back and scapulars washed with pale greenish.

Hab. Southern Europe, extending to Central Asia and south to Afghanistan, Cashmere, and Sind, occurring in winter throughout the whole of Africa.

a. Ad. sk.	England (*Dr. Heysham*).	Hume Coll.
b. Ad. sk.	S. France (*Shaw Kennedy*).	Shelley Coll.
c. ♀ ad. sk.	Malaga, Spain, May (*H. Saunders*).	Tweeddale Coll.
d. Imm. sk.	Algeria.	Gould Coll.
e. ♀ ad.; *f.* Imm. sk.	Kef Laks, Constantine, April (*O. Salvin*).	Salvin-Godman Coll.
g. Ad. sk.	Malta, May (*A. L. Adams*).	Jardine Coll.
h. Ad. sk.	Greece.	Gould Coll.
i. Ad. st.	Athens.	Consul Merlin [P.].
k. ♀ Imm. sk.	Ortakeuy, Turkey, Sept. 14 (*T. Robson*).	Dr. R. B. Sharpe [P.].
l. ♂ ad. sk.	Black Sea, May 9 (*T. Robson*).	Tweeddale Coll.
m–s. Ad. sk.	Cyprus, May, Aug. (*H. Guillemard & W. Pearce*).	Lord Lilford [P.].
t. Ad. sk.	Egypt.	J. Bowring, Esq. [P.].
u. ♂ ad. sk.	Egypt, April (*G. E. S.*).	Shelley Coll.
v, w. ♂ ad. sk.	Mt. Carmel, Palestine, April.	Canon Tristram [C.].
x. ♀ ad. sk.	Safed, Palestine.	Canon Tristram [C.].
y, z. ♂ ♀ ad. sk.	Shiraz, June.	Sir O. St. John [C.].
a', *b'*. ♂ ad. sk.	Shiraz, June.	W. T. Blanford, Esq. [P.].
c', *d'*, *e'*. Ad. sk.	Fao, Persian Gulf.	W. D. Cumming, Esq. [C.].
f'. Ad. sk.	Bushire, April.	A. J. V. Palmer, Esq. [P.].

g'. Ad. sk.	Tentjek River, Turkestan, May (*Dr. O. Finsch*).	Geogr. Soc. Bremen.
h'. ♀ ad. sk.	Tirphul, N. Afghanistan, April.	Dr. Aitchison [C.].
i', *k'*. ♂ ad.; *l'*. ♀ ad. sk.	Kandahar, April (*Sir O. St. John*).	Hume Coll.
m', *n'*. ♂ ♀ ad. sk.	Kandahar, April.	ColonelSwinhoe[P.].
o', *p'*. ♂ ad. sk.	Byan Kheyl, June (*R. G. W. R.*).	Tweeddale Coll.
q'. Ad. sk.	Iympeer, Sind, Nov. (*E. A. Butler*).	Hume Coll.
r', *s'*. ♂ ♀ ad. sk.	Cashmere, Oct.	Purchased.
t'–*x'*. Ad. sk.	Cashmere (*S. Pinwill*).	Tweeddale Coll.
y'–*b''*. ♂ ♀ ad. sk.	Cashmere, May, June, Aug.	Hume Coll.
c''. ♀ ad. sk.	Gilgit, May (*J. Biddulph*).	Hume Coll.
d'', *e''*, *f''*. ♂ ♀ ad. sk.	Srinagar, May, July (*J. Biddulph*).	Tweeddale Coll.
g''–*k''*. ♂ ad.; *l''*, *m''*, *n''*. ♀ ad. sk.	Agrore Valley, April, May.	Hume Coll.
o''. Ad. sk.	River Gambia.	Sharpe Coll.
p'', *q''*. Ad. sk.	Abyssinia, April (*W. Jesse*).	Tweeddale Coll.
r''. ♂ ad. sk.	Adigrat, Tigré, April.	W. T. Blanford, Esq.
s''. Ad. sk.	Dongola, Oct.	F. Bohndorff [C.].
t''. Ad. sk.	Dar-es-Salaam (*Sir J. Kirk*).	Shelley Coll.
u''. Imm. sk.	River Congo.	Old Coll.
v''. ♀ ad. sk.	Caconda, Angola, Nov. (*Anchieta*).	Shelley Coll.
w''–*z''*. Ad. sk.	Makalaka Country (*Dr. Bradshaw*).	Shelley Coll.
*a*³. ♀ ad. sk.	Inchlangin, Matabele Land, Dec. (*F. Oates*).	W. E. & C. G. Oates, Esqrs. [P.].
*b*³. ♀? ad. sk.	Hendrik's Vley, Dec. (*F. Oates*).	W. E. & C. G. Oates, Esqrs. [P.].
*c*³, *d*³, *e*³. ♂ ad. sk.	Bamangwato, Oct. (*T. E. Buckley*).	Shelley Coll.
*f*³. ♂ ad. sk.	Rustenberg, Dec. 2 (*T. Ayres*).	Gurney Coll.
*g*³. ♀ ad. sk.	Potchefstroom, Oct. 26 (*T. Ayres*).	Gurney Coll.
*h*³. Ad. sk.	Durban, Natal (*Gordge*).	Shelley Coll.
*i*³. Ad. sk.	Orange Free State.	A. Sharpe, Esq. [P.].
*k*³. ♂ ad. sk.	Malmesbury, Cape Colony, Nov. (*J. S. Van Reenen*).	Shelley Coll.
*l*³. Ad. sk.	Cape Town.	Shelley Coll.
*m*³. Ad. sk.	South Africa (*Sir A. Smith*).	Jardine Coll.
*n*³. Skull.	Egypt.	Dr. Christie [P.].
*o*³. Sternum.	Shiraz (*St. John*),	India Museum.

5. **Merops persicus.**

Merops persicus, *Pall. Reis. Russ. Reichs*, ii. *Anhang*, p. 708 (1773); *id. Zoogr. Rosso-Asiat.* ii. p. 440 (1811); *Ménétr. Cat. rais. Cauc.* p. 46 (1832); *Keys. u. Blas. Wirb. Eur.* p. 149 (1840); *Nordm. in Démid. Voy. Russ. Mérid.* iii. p. 207(1840); *Mühle, Orn. Griechenl.* p. 32 (1844); *Schl. Rev. Crit.* p. 53 (1844); *Gray, Gen. B.* i. p. 86 (1846); *Blyth, Cat. B. Mus. As. Soc.* p. 52 (1849); *Brehm, Vogelf.* p. 50 (1855); *Tristr. Ibis*, 1859, p. 27; *Linderm. Vög. Griechenl.* p. 45 (1860); *Allen, Ibis*, 1862, p. 359; *Wright, Ibis*, 1864, p. 73;

Filippi, Viagg. Persia, p. 346 (1865); *Bree, B. Eur.* iv. p. 76, cum fig. (1866); *Taylor, Ibis*, 1867, p. 56; *Wyatt, Ibis*, 1870, p. 10; *Shelley, Ibis*, 1871, p. 48; *Severtz. Turkest. Jevotn.* p. 68; *Wright, Ibis*, 1874, p. 237; *Dresser, Ibis*, 1876, p. 319; *id. B. Eur.* v. p. 165, pl. 296 (1877); *Davidson & Wenden, Str. F.* vii. p. 77 (1878); *Hume, Str. F.* viii. p. 85 (1879); *Butler, Cat. B. Sind etc.* p. 15 (1879); *id. Cat. B. S. Bomb. Pres.* p. 18 (1880); *Doig, Str. F.* 1880, p. 278; *Wardlaw Ramsay, Ibis*, 1880, p. 49; *Biddulph, Ibis*, 1881, p. 48; *Gigl. t. c.* p. 191; *Scully, t. c.* p. 429; *Davidson, Str. F.* x. p. 295 (1882); *Seeb. Ibis*, 1882, p. 210; *Tristr. t. c.* p. 414; *Dixon, t. c.* p. 560; *Seeb. Ibis*, 1883, p. 21; *Murray, Vertebr. Faun. Sind*, p. 108 (1884); *Salvad. Ann. Mus. Civic. Genov.* (2) i. p. 108 (1884); *Dresser, Monogr. Merop.* p. 63, pl. 16 (1884); *Swinh. & Barnes, Ibis*, 1885, p. 61; *Ayres, t. c.* p. 343; *St. John, Ibis*, 1889, p. 157; *Reichen. J. f. O.* 1889, p. 110; *Sharpe, Tr. Linn. Soc.* (2) *Zool.* v. pt. 3, p. 84 (1889); *Oates, ed. Hume's Nests & Eggs Ind. B.* iii. p. 65 (1891).

Merops ægyptius, *Forsk. Descr. Anim., Aves*, p. 1 (1775); *Less. Traité*, p. 237 (1831); *Gray, Gen. B.* i. p. 86 (1846); *id. List Fissir. Brit. Mus.* p. 69 (1848); *Bp. Consp.* i. p. 161 (1850); *Horsf. & Moore, Cat. B. Mus. E. I. Co.* i. p. 89 (1854); *Cab. & Heine, Mus. Hein.* Th. ii. p. 140 (1860); *Jerd. B. Ind.* i. p. 209 (1862); *Schl. Mus. Pays-Bas*, Merops, p. 2 (1863); *Antin. Cat. descr. Ucc.* p. 29 (1864); *Mont. P. Z. S.* 1865, p. 96; *Gigl. Ibis*, 1865, p. 52; *Tristr. Ibis*, 1866, p. 83; *Blyth, t. c.* p. 344; *Degl. & Gerbe, Orn. Eur.* i. p. 173 (1867); *Loche, Expl. Sci. Algér., Ois.* ii. p. 91 (1867); *Layard, B. S. Afr.* p. 69 (1867); *Gurney, Ibis*, 1868, p. 154; *Gray, Hand-l. B.* i. p. 99, no. 205 (1869); *Doderl. Avif. Sicil.* p. 56 (1869); *Sharpe, Ibis*, 1870, p. 429; *Salvad. Faun. Ital. Ucc.* p. 44 (1871); *Shelley, B. Egypt*, p. 170 (1872); *Marshall, Ibis*, 1872, p. 203; *Hume, Nests & Eggs Ind. B.* p. 103 (1873); *id. Str. F.* i. p. 167 (1873); *Adam, t. c.* p. 371; *id. Str. F.* 1874, p. 466; *Sharpe, P. Z. S.* 1874, p. 306; *Butler, Str. F.* iii. p. 456 (1875); *Hume, Str. F.* 1876, p. 326; *Blanf. East. Persia*, ii. p. 123 (1876); *Butler, Str. F.* vii. p. 77 (1878); *Sharpe, Journ. Linn. Soc.* xviii. p. 434 (1884); *id. Ibis*, 1886, pp. 487, 498; *id. App. to Jameson's 'Rear-Column,'* p. 410 (1890).

Le Guêpier Savigny, *Levaill. Hist. Nat. Guêpiers*, p. 30, pls. 6, 6 bis (1807).

Le Guêpier rousse-gorge, *Levaill. t. c.* p. 52, pl. 16 (1807).

? Merops longicaudus, *Vieill. N. Dict. d'Hist. Nat.* xiv. p. 15 (1817).

Merops superciliosus, var. (*nec L.*), *Vieill. t. c.* p. 20 (1817).

Merops ruficollis, *Vieill. t. c.* p. 22 (1817).

Merops superciliosus (*nec L.*), *Licht. Verz. Doubl.* p. 13 (1823); *Rüpp. Syst. Uebers.* p. 23 (1845); *Heugl. Orn. N.O.-Afr.* i. p. 197 (1869, pt.); *Finsch, Trans. Z. S.* vii. p. 223 (1870); *id. & Hartl. Vög. Ostafr.* p. 178 (1870, pt.); *Gurney, in Anderss. B. Dam. Ld.* p. 61 (1872); *Reichen. J. f. O.* 1875, p. 18, 1877, p. 21; *Bocage, Orn. Angola*, p. 87 (1877–81); *Sharpe in Oates' Matabele Land*, App. p. 301 (1881); *id. ed. Layard's B. S. Afr.* pp. 97, 804 (1884); *Shelley, Ibis*, 1890, p. 410.

Merops savignii, *Audouin, Expl. Somm.* p. 371 (1825); *Steph. in Shaw's Gen. Zool.* xiii. pt. 2, p. 74 (1826); *Swains. B. W. Afr.* ii. p. 77, pl. 7 (1837); *Temm. Man. d'Orn.* iv. p. 649 (1840); *Werner, Atlas*, Alcyons, pl. 1; *Crespon, Orn. Gard*, p. 291 (1840); *Gray, Gen. B.* i. p. 86 (1846); *Bp. Consp.* i. p. 161 (1850); *Reichenb. Handb., Merop.* p. 65, pl. 444 (1852); *Hartl. Orn. W.-Afr.* p. 38

(1857); *Gurney, Ibis*, 1861, p. 132; *Mont. Ibis*, 1862, p. 334; *Kirk, Ibis*, 1864, p. 324; *Layard, B. S. Afr.* p. 69 (1867); *Gurney, Ibis*, 1868, p. 154; *Gray, Hand-l. B.* i. p. 99, no. 1206 (1869); *Holub & Pelz. Beitr. Orn. Südafr.* p. 65 (1882).

Blepharomerops ægyptius, *Reichenb. Handb., Merop.* p. 82 (1852).

Blepharomerops savignii, *Reichenb. t. c.* p. 82 (1852).

Merops chrysocercus, *Cab. & Heine, Mus. Hein.* Th. ii. p. 139 (1860).

Adult male. General colour above green; wing-coverts the same as the back; primary-coverts bluish on the outer web, dusky on the inner web with black shaft-streaks; quills golden olive, dusky blackish at the ends and rufous at base of inner web; inner secondaries like the back; upper tail-coverts like the back; tail-feathers golden olive, the centre ones produced and darkening towards the tips; crown of head like the back; lores and a streak through the eye and ear-coverts black; eyebrow and a frontal band pale blue, preceded at the base of forehead by a white band which forms a narrow line above the eye; chin yellow, followed by a large patch of chestnut on the throat; the sides of the latter green, extending on to the cheeks, which are otherwise light blue, separated from the black ear-coverts by a line of white; sides of neck and rest of under surface of body green like the back, with a few silky-white plumes at side of vent; under wing-coverts and axillaries, as well as the lining of quills, rufous fawn-colour: "bill black, legs and feet fleshy, claws brown, iris red" (*C. T. Bingham*). Total length 11·8 inches, wing 6·1, culmen 1·8, tail 3·4, centre feathers 5·3, tarsus 0·45.

Adult female. Similar to the male in colour, but with rather more green on the head; the white base to the forehead and the blue frontal superciliary band not so broad: "soft parts as in the male" (*C. T. Bingham*). Total length 12 inches, culmen 1·75, wing 5·7, tail 3·5, longest feathers 5·5, tarsus 0·4.

Young. Similar to the adults but more olive-green, the feathers generally paler green on their margins; the wing-coverts, scapulars, and inner secondaries with greenish-white edges; the primary-coverts golden olive like the rest of the quills; the centre tail-feathers scarcely protruding beyond the others and only slightly pointed at the ends; crown of head green like the back, with very little white at the base of the forehead, but no blue eyebrow: under surface of body pale green; the chin whitish, succeeded by a patch of light chestnut-brown like the under surface of quills.

As the breeding-season progresses the plumage becomes extremely abraded and the green fades into blue.

Hab. The greater part of Africa, occurring in Southern Europe, and extending throughout the Mediterraneo-Persic region to Turkestan and to N.W. India, as far south as Khandeish.

a–g. ♂ ad.; *h–l.* ♀ ad. sk.	Near Delhi, June to August (*C. T. Bingham*).	Hume Coll.
m–b′. ♂ ad.; *c′–m′.* ♀ ad.; *n′.* ♂ jr.; *o′.* ♀ jr. sk.	Sultanpur, Gurgaon distr., May to Sept. (*W. N. Chill*).	Hume Coll.

p', *q'*. ♂ ad.; *r'*. ♂ jr.; *s'*. ♀ jr. sk.	Aligurh, August to October (*G. F. L. Marshall*).	Hume Coll.
t'–*b''*. ♂ ad.; *c''*–*i''*. ♀ ad. sk.	Sambhur, May to Aug. (*R. M. Adam*).	Hume Coll.
k''. ♂ ad. sk.	Mhow, Oct. 16.	Colonel Swinhoe [P.].
l'', *m''*. Ad. sk.	Dhulia, Khandeish, Oct. 10.	Hume Coll.
n'', *o''*. ♂ ad. sk.	Deesa, Oct. 29 (*E. A. Butler*).	Hume Coll.
p'', *q''*. Imm. sk.	Jacobabad, Sindh.	Hume Coll.
r''. Juv. sk.	Pishin Valley, Aug. 16 (*Sir O. St. John*).	Hume Coll.
s'', *t''*. Ad.; *u''*, *v''*. Juv. sk.	Nal, Khelat, April, Sept. (*O. T. Duke*).	Hume Coll.
w'', *x''*. ♂ ♀ ad. sk.	Kandahar, May (*Sir O. St. John*).	Hume Coll.
y'', *z''*. Ad. sk.	Kandahar (*Griffith*).	India Museum.
*a*³. Imm. sk.	Khokand.	St. George Littledale, Esq. [P.].
*b*³. ♂ ad. sk.	Kumani, N. Afghanistan, May 13.	Dr. Aitchison [C.].
*c*³, *d*³. Juv. sk.	Mekran Coast (*E. A. Butler*).	Hume Coll.
*e*³. ♂ ad. sk.	W. of Bampur, Persian Baluchistan.	W. T. Blanford, Esq. [C.].
*f*³–*k*³. Ad. sk.	Fao, Persian Gulf.	W. D. Cumming, Esq. [P.].
*l*³, *m*³. Ad. sk.	Bushire, April.	A. J. V. Palmer, Esq. [P.].
*n*³, *o*³, *p*³. Ad. sk.	Euphrates Valley (*Commander Jones*).	India Museum.
*q*³. Juv. sk.	Shiraz.	Sir O. St. John [C.].
*r*³. ♂ ad. sk.	Jeddah, Arabia.	H. H. Calvert, Esq. [P.].
*s*³–*v*³. ♀ ad. sk.	Egypt, March, April (*G. E. S.*).	Shelley Coll.
*w*³. ♂ ad. sk.	Damietta, April (*Filipponi*).	Shelley Coll.
*x*³. ♀ ad. sk.	Dongola.	Sharpe Coll.
*y*³, *z*³. ♂ ♀ ad. sk.	Tani, Sudan, April.	Capt. W. Verner [P.].
*a*⁴. ♀ ad. sk.	Koomayli, Abyssinia (*W. Jesse*).	Tweeddale Coll.
*b*⁴–*d*⁴. Ad. et juv. sk.	River Gambia.	Sharpe Coll.
*e*⁴. Ad. sk.	Bissao.	Sharpe Coll.
*f*⁴. Imm. sk.	Semmio, Niam Niam Country, Dec.	F. Bohndorff [C.].
*g*⁴. Imm. sk.	River Shiré (*Sir J. Kirk*).	Jardine Coll.
*h*⁴. Ad. sk.	Zambesi (*Dr. Meller*).	Tweeddale Coll.
*i*⁴. Ad. sk.	Tete, Zambesi (*Sir J. Kirk*).	Livingstone Exped.
*k*⁴, *l*⁴. Ad. sk.	Makalaka Country.	Dr. Bradshaw [C.].
*m*⁴. ♂ ad. sk.	Hendrik's Vley (*F. Oates*).	W. E. & C. G. Oates, Esqs. [P.].
*n*⁴. Imm. sk.	Junction of Mooi River and Vaal River.	F. A. Barratt, Esq. [P.].
*o*⁴, *p*⁴. ♂ ♀ ad. sk.	Natal.	Jardine Coll.
*q*⁴, *r*⁴. Imm. sk.	Durban (*T. L. Ayres*).	Shelley Coll.
*s*⁴. ♂ ad.; *t*⁴. ♀ Imm. sk.	Ondonga, Ovampoland, Nov. (*C. J. Andersson*).	Sharpe Coll.
*u*⁴. ♂ ad. sk.	Ondonga, Dec. 22 (*C. J. A.*)	Tweeddale Coll.
*v*⁴. Ad. sk.	Benguela.	Monteiro Coll.
*w*⁴. Ad. sk.	Benguela (*Furtado d'Antas*).	Sharpe Coll.

x^4. Ad. sk.	Yambuya, Upper Congo (*J. S. Jameson*).	Mrs. Jameson [P.].
y^4. Skeleton.	Abyssinia.	W. Jesse, Esq. [C.].

6. Merops superciliosus.

Le Guêpier de Madagascar, *Briss. Orn.* iv. p. 545, pl. xlii. fig. 1 (1760); *Daubent. Pl. Enl.* vi. pl. 259.

Merops superciliosus, *Linn. Syst. Nat.* i. p. 183 (1766); *Vieill. N. Dict. d'Hist. Nat.* xiv. p. 19 (1817); *Gray, Gen. B.* i. p. 86 (1846); *Bp. Consp.* i. p. 161 (1850); *Cab. & Heine, Mus. Hein.* Th. ii. p. 140 (1860); *Hartl. Faun. Madag.* p. 32 (1861); *Roch & E. Newt. Ibis*, 1862, p. 272; *E. Newt. Ibis*, 1863, p. 34; *Scl. Ibis*, 1864, pp. 295, 299; *Schl. & Poll. Faune Madag., Ois.* p. 60 (1868); *Sperling, Ibis*, 1868, p. 288; *Gray, Hand-l. B.* i. p. 99, no. 1204 (1869); *Heugl. Orn. N.O.-Afr.* i. p. 197 (1869, pt.); *Finsch & Hartl. Vög. Ostafr.* p. 178 (1870, pt.); *Blanf. Geol. & Zool. Abyss.* p. 221 (1870); *Sharpe, Ibis*, 1870, p. 429; *Antin. & Salvad. Viagg. Bogos*, p. 65 (1873); *Barratt, Ibis*, 1876, p. 197; *E. Newt. P. Z. S.* 1877, p. 297; *Hartl. Vög. Madag.* p. 81 (1877); *Reichen. J. f. O.* 1877, p. 21; *Nichols. P. Z. S.* 1878, p. 355; *Cab. J. f. O.* 1878, p. 235; *Fischer & Reichen. J. f. O.* 1878, p. 256; *Hartl. Abhandl. nat. Ver. Bremen*, vii. p. 111 (1881); *Pelz. Verh. z.-b. Ges. Wien*, xxxii. p. 500 (1881); *Shelley, P. Z. S.* 1881, p. 568; *Gurney, Ibis*, 1881, p. 125, 1882, p. 75; *Fischer, Zeitschr. ges. Orn.* i. p. 360 (1884); *Dresser, Monogr. Merop.* p. 71, pl. 17 (1884); *Salvad. Ann. Mus. Civic. Genov.* (2) i. p. 107 (1884); *Souza, Jorn. Lisb.* 1886, xi. p. 82; *Oust. Bibl. haut. Etudes*, xxxi. art. 10, p. 4 (1886); *Reichen. J. f. O.* 1887, p. 61; *Matschie, t. c.* p. 140; *Reichen. t. c.* p. 308; *Salvad. Ann. Mus. Civic. Genov.* (2) vi. p. 221 (1888); *Shelley, Ibis*, 1888, p. 296; *Souza, Jorn. Lisb.* (2) 1889, no. 11, p. 113; *Shelley, Ibis*, 1890, p. 267.

Le Patirich, *Montb. Hist. Nat. Ois.* vi. p. 495 (1779).

Supercilious Bee-eater, *Lath. Gen. Syn.* i. pt. 2, p. 673 (1782).

Le Guêpier rousse-tête ou Le Guêpier Bonelli, *Levaill. Hist. Nat. Guêpiers*, iii. p. 57, pl. 19 (1807).

Merops ruficapillus, *Vieill. N. Dict. d'Hist. Nat.* xiv. p. 23 (1817).

Merops vaillanti, *Bp. Consp.* i. p. 161 (1850).

Merops ægyptius (*nec Forsk.*), *Reichenb. Handb., Merop.* p. 64, Taf. 443 B. figs. 3545–46 (1852).

Blepharomerops ægyptius, *Reichenb. t. c.* p. 82 (1852).

Blepharomerops superciliosus, *Reichenb. t. c.* p. 82 (1852).

Adult male. Similar to *M. ægyptius*, and having a golden-olive or greenish tail, but distinguished by having a reddish-brown head, contrasting with the light green back, and also by the absence of blue on the forehead and cheeks; the forehead white at base, as well as the eyebrow and the upper edge of the eyelid, which have a greenish tinge; the cheeks conspicuously white: "bill black, feet blackish, iris brick-red" (*A. Grandidier*). Total length 12 inches, culmen 1·8, wing 5·5, tail 3·25, central feathers 5·5, tarsus 0·45.

Hab. Madagascar and the adjacent islands, occurring in various parts of the African continent, but apparently somewhat local.

a. Ad. sk.	Madagascar (*F. Plant*).	Jardine Coll.
b. Ad. sk.	Madagascar.	G. F. Scott Elliot, Esq. [P.].
c, *d*. Ad. sk.	Madagascar.	Mr. Gerrard [C.].

e, f. Ad. sk.	Madagascar.	Sharpe Coll.
g, h. Ad. sk.	N. Madagascar (*A. Crossley*).	Sharpe Coll.
i. Ad. sk.	N. Madagascar.	Shelley Coll.
k–n. Ad. sk.	Betsileo, March, April, Nov. (*W. Deans Cowan*).	Tweeddale Coll.
o. ♂ ad. sk.	Mayotte, Jan. 6 (*Van Dam*).	Tweeddale Coll.
p. Ad. sk.	Great Comoro Islands (*Sir J. Kirk*).	Shelley Coll.
q. Ad. sk.	Anjuan Island (*Sir J. Kirk*).	Shelley Coll.
r. Ad. sk.	Mohilla (*Sir J. Kirk*).	Jardine Coll.
s, t. Ad. sk.	Angola (*Monteiro & Sala*).	Sharpe Coll.
u, v, w. Ad. sk.	Pangani River, E. Africa (*Sir J. Kirk*).	Shelley Coll.
x. Ad. sk.	Dar-es-Salaam (*E. C. Buxton*).	Shelley Coll.
y. Ad. sk.	Melinda (*Sir J. Kirk*).	Shelley Coll.
z, a'. ♂ ad. sk.	Lamu.	F. J. Jackson, Esq. [P.].
b'. Ad. sk.	Mombasa (*Hanford*).	Gurney Coll.
c'. Ad. sk.	Mombasa.	Rev. A. F. Buxton [P.].
d'. Ad. sk.	Adigrat, Tigré, Abyssinia, April.	W. T. Blanford, Esq. [P.].

7. Merops philippinus.

Le Grand Guespier des Philippines, *Briss. Orn.* iv. p. 560, pl. 43. fig. 1 (1760); *Daubent. Pl. Enl.* vi. pl. 57.

Merops philippinus, *Linn. Syst. Nat.* 13th edit. (*Vindob.*), i. p. 183 (1787, *teste Walden, Tr. Z. S.* vii. p. 145); *Gm. Syst. Nat.* i. p. 461 (1788); *Vieill. N. Dict. d'Hist. Nat.* xiv. p. 27 (1817); *Frankl. P. Z. S.* 1831, p. 115; *Strickl. P. Z. S.* 1842, p. 167; *Gray, Gen. B.* i. p. 86 (1846); *id. Cat. Mamm. etc. Nepal. pres. Hodgs.* p. 57 (1846); *id. List Fissir. Brit. Mus.* p. 69 (1848); *Horsf. & Moore, Cat. B. Mus. E. I. Co.* i. p. 86 (1854); *Moore, P. Z. S.* 1854, p. 263; *Gould, B. Asia*, i. pl. 36 (1855); *Moore, P. Z. S.* 1857, p. 87; *Cab. & Heine, Mus. Hein.* Th. ii. p. 139 (1860); *Irby, Ibis*, 1861, p. 228; *Scl. P. Z. S.* 1863, p. 213; *Schl. Mus. Pays-Bas*, Merops, p. 2 (1863); *Blyth, Ibis*, 1865, p. 30, 1866, p. 344; *Beavan, Ibis*, 1867, p. 318; *Gray, Hand-l. B.* i. p. 99, no. 1207 (1869); *Wald. Tr. Z. S.* vii. p. 145 (1872); *Hume, Nests & Eggs Ind. B.* p. 101 (1873); *Ball, Str. F.* i. p. 57 (1873), ii. p. 386 (1874); *Holdsw. Ibis*, 1874, p. 125; *Ball, Str. F.* iii. p. 289; *Salvad. Ucc. Born.* p. 89 (1874); *Blyth & Wald. B. Burm.* p. 72 (1875); *Hume, t. c.* p. 326; *Butler, t. c.* p. 456; *Fairb. Str. F.* iv. p. 254 (1876); *Hume, t. c.* p. 326; *Butler, t. c.* p. 456; *Hume, Str. F.* v. p. 18 (1877); *Fairb. t. c.* p. 394; *Ball, t. c.* p. 413; *David & Oust. Ois. Chine*, p. 72 (1877); *Tweedd. P. Z. S.* 1877, pp. 540, 690, 1878, pp. 107, 282, 340, 709; *Hume & Davis, Str. F.* vi. pp. 67, 498; *Ball, Str. F.* vii. p. 203 (1877); *Cripps, t. c.* p. 258; *Legge, B. Ceylon*, p. 306 (1879); *Hume, Str. F.* viii. pp. 48, 85 (1879); *Bingham, t. c.* p. 192; *Doig, t. c.* p. 370; *Tiraut, Bull. Comm. Soc. Agric. Cochin-Chine*, p. 78 (1879); *Meyer, Ibis*, 1879, p. 57; *Sharpe, t. c.* p. 248; *Vidal, Str. F.* ix. p. 49 (1880); *Bingham, t. c.* p. 152; *Doig, t. c.* p. 278; *Nichols. Ibis*, 1881, p. 143; *Kelham, Ibis*, 1881, p. 378; *Reid, Str. F.* x. p. 21 (1881); *Davidson, t. c.* p. 295 (1882); *Davison, t. c.* p. 350 (1883); *Oates, Handb. B. Br. Burm.* ii. p. 66 (1883); *Dresser, Monogr. Merop.* p. 55, pl. 15 (1884); *Vorderm. Nat. Tijdschr. Nederl. Ind.* xliv. p. 191 (1885); *Salvad. Ann. Mus.*

Civic. Genov. (2) iv. p. 583 (1887); *Hume, Str. F.* xi. p. 42 (1888); *Steere, List B. & Mamm. Philipp.* p. 9 (1890); *Oates, ed. Hume's Nests & Eggs Ind. B.* iii. p. 63 (1890).

Le Guêpier vert à queue d'azur, *Mont. Hist. Nat. Ois.* vi. p. 504 (1779).

Philippine Bee-eater, *Lath. Gen. Syn.* i. pt. 2, p. 974 (1782).

Le Guêpier à queue d'azur ou Le Guêpier Daudin, *Levaill. Hist. Nat. Guêpiers*, p. 49, pl. 14 (1807).

Merops javanicus, *Horsf. Trans. Linn. Soc.* xiii. p. 171 (1820); *Eyton, P. Z. S.* 1839, p. 101; *Gray, Gen. B.* i. p. 86 (1846); *Bp. Consp.* i. p. 162(1850); *Reichenb. Handb., Merop.* p. 66, Taf. 444. figs. 3227–28 (1852); *Motley, P. Z. S.* 1863, p. 213.

Merops philippensis, *Steph. in Shaw's Gen. Zool.* xiii. pt. 2, p. 75 (1826); *Jerd. B. Ind.* i. p. 207 (1862); *Swinh. Ibis*, 1865, p. 230; *Beavan, t. c.* p. 407; *Hancock, Cat. B. Northumb.* p. 28 (1874); *Anderson, Rep. Zool. Exped. Yun-nan*, p. 511 (1878).

Merops daudini, *Cuvier, Règne Anim.* i. p. 422 (1829); *Gray, Hand-l. B.* i. p. 99, no. 1208 (1879); *Swinh. P. Z. S.* 1871, p. 349; *Hume, Str. F.* ii. pp. 162, 469 (1874), iii. p. 49 (1875).

Merops typicus, *Hodgs. Icon. ined. in Brit. Mus. Passeres*, pl. 23. figs. 1, 2 (no. 746); *id. in Gray's Zool. Misc.* p. 82 (1844).

Blepharomerops javanicus, *Reichenb. Handb., Merop.* p. 82 (1852).

Blepharomerops philippinus, *Reichenb. t. c.* p. 82 (1852).

Blepharomerops savignii (*nec Audouin*), *Reichenb. t. c.* p. 82 (1852).

Merops philippinus, var. celebensis, *Blasius, Zeitschr. ges. Orn.* ii. p. 239 (1885).

Adult male. Similar to *M. aegyptius*, but without any white on the forehead or eyebrow, the latter replaced by a narrow line of blue, and the cheeks having a broad streak of cobalt-blue; lower back, rump, upper tail-coverts, and tail blue, instead of golden olive or green: "bill black; feet blackish, the hinder part of the tarsus paler; iris scarlet" (*W. V. Legge*). Total length 11·3 inches, culmen 1·8, wing 5·3, tail 3·5, centre feathers 5, tarsus 0·45.

Adult female. Similar to the male. Total length 11·5 inches, culmen 1·7, wing 5·15, tail 3·4, tarsus 0·4.

Young. Much duller in colour generally, with the blue tail and rump of the adult, but without the blue eyebrow, this being replaced by a little lighter green shade than on the crown; cheeks pale green; throat pale brownish.

Hab. Indian Peninsula and Ceylon, extending through the Burmese countries to Siam and Cochin China, and even visiting Southern China in summer. It extends south through the Malayan Peninsula and Java, Sumatra, the Philippines, and Borneo, and even to Celebes and Timor. ? New Britain*.

a, b. ♂ ♀ ad. sk.	Colombo, Ceylon, June (*Hart*).	Hume Coll.
c, d. ♂ ad. sk.	Galle, Ceylon, Oct., Nov.	Colonel Legge [P.].
e–n. ♂ ♀ ad. sk.	Ceylon, Dec., Jan., March (*S. Chapman & H. Nevill*).	Tweeddale Coll.

* Dr. Meyer has recently described a young Bee-eater from New Britain as *M. salvadorii* (Ibis, 1891, p. 293). By his kindness I was allowed to examine the type of this new species in the Dresden Museum, and I could not see why it should be separated from *M. philippinus*. The adult bird, when discovered, may confirm Dr. Meyer's opinion.

o, *p*. Imm. sk.	Anjango, Travancore, Dec. (*F. Bourdillon*).	Hume Coll.
q. Ad. sk.	Malabar.	Tweeddale Coll.
r. ♂ ad. sk.	Calicut, April (*R. G. W. R.*).	Tweeddale Coll.
s. Ad. sk.	Coorg.	Tweeddale Coll.
t. Ad. sk.	Madras (*Jerdon*).	Gould Coll.
u. ♂ ad. sk.	Dhamapur, S. Konkan, Feb. (*G. Vidal*).	Hume Coll.
v, *w*. Ad. sk.	Raipur, March.	Hume Coll.
x. Ad. sk.	Kamptee.	Dr. R. B. Hinde [P.].
y. Ad. sk.	Khandeish.	Tweeddale Coll.
z, *a'*. Ad. sk.	Hills north of Khandeish, May.	Hume Coll.
b'. Ad.; *c'*, *d'*. ♂ imm. sk.	Mount Aboo, July (*E. A. Butler & G. King*).	Hume Coll.
e'. ♂ ad. sk.	Moorpoor, Kangra Valley, May (*A. O. H.*).	Hume Coll.
f', *g'*. Ad. sk.	Dehra Dhoon, May.	Tweeddale Coll.
h'. Ad. sk.	Naini Tal.	Hume Coll.
i', *k'*. ♂ ♀ sk.	Etawah, Aug. (*A. O. H.*).	Hume Coll.
l'. ♂ ad. sk.	Allahabad, March.	Hume Coll.
m'. Ad. sk.	Mogul Serai, Oudh, Dec. (*W. E. Brooks*).	Hume Coll.
n', *o'*, *p'*. Ad. sk.	Gondah, Oudh.	Pinwill Coll.
q'. Ad. sk.	Behar.	Hodgson Coll.
r'. Ad. sk.	Nepal.	Hodgson Coll. (Type of *M. typicus*.)
s'. Imm. sk.	Calcutta, August.	W. T. Blanford, Esq. [P.].
t', *u'*. Imm. sk.	Dacca.	Hume Coll.
v', *w'*. ♂ ad.; *x'*. ♂ imm. sk.	Tippera, March.	Hume Coll.
y'. Ad. sk.	Sadhya, Assam, April.	Hume Coll.
z', *a''*. Ad.; *b''*–*f''*. Imm. sk.	Dibrughur, June to September (*J. R. Cripps*).	Hume Coll.
g''. Imm. sk.	Cachar.	Hume Coll.
h''. Ad. sk.	Mandalay, Sept.	Dr. J. Anderson [C.].
i'', *k''*. ♂ ad. sk.	Tonghoo, May, Oct. (*R. G. W. R.*).	Tweeddale Coll.
l''. ♂ ad. sk.	Thayetmyo, Sept. (*E. W. Oates*).	Hume Coll.
m''. ♀ ad.; *n''*. ♀ imm. sk.	Lower Pegu, March, June.	Oates Coll.
o''. ♂ ad. sk.	Akyab, March (*J. Armstrong*).	Hume Coll.
p''. ♂ ad. sk.	Elephant Point, Dec. (*J. A.*).	Hume Coll.
q''. ♂ ad. sk.	Thatone, Dec. (*W. Davison*).	Hume Coll.
r''. ♀ ad. sk.	Amherst, Jan.	Hume Coll.
s''. ♂ ad.; *t''*, *u''*, *v''*. ♀ ad. sk.	Attaran River, Dec. (*W. Davison*).	Hume Coll.
w''. ♀ ad. sk.	Malewoon, Feb. (*W. Davison*).	Hume Coll.
x'', *y''*. ♀ ad. sk.	Nahconchaisee, Siam, Dec. (*L. C. Layard*).	Tweeddale Coll.
z'', *a*^{3}, *b*^{3}. Ad. sk.	Saigon, Cochin China, Aug., Oct.	M. E. Pierre [P.].
c^3. ♀ ad. sk.	Aberdeen, S. Andamans, Nov.	Hume Coll.
d^3. ♂ ad. sk.	Camorta, Nicobars, Dec. (*R. J. Wimberley*).	Tweeddale Coll.
e^3, *f*^{3}. ♂ ad. sk.	Camorta, Dec. March (*W. Davison & R. J. W.*).	Hume Coll.
g^3. Imm. sk.	Province Wellesley, December.	Dr. A. McKinlay.

h^3. Ad. sk.	Province Wellesley (*F. Stoliczka*).	Hume Coll.
i^3–n^3. ♂ ad.; o^3–s^3. ♀ ad. sk.	Klang, Salangore, Dec. to March & Aug. (*W. Davison*).	Hume Coll.
t^3. ♂ ad.; u^3, v^3. ♀ ad. sk.	Dingding River, Feb. (*W. Davison*).	Hume Coll.
w^3. Ad.; x^3. Imm. sk.	Malacca (*Dr. Cantor*).	India Museum.
y^3. Imm. sk.	Malacca (*R. G. W. R.*).	Tweeddale Coll.
z^3, a^4, b^4. Ad. sk.	Malacca, July, Aug. (*W. D.*).	Hume Coll.
c^4, d^4. ♂ imm. sk.	Pulo Seban, Oct. (*W. D.*).	Hume Coll.
e^4. ♀ ad. sk.	Kuroo, Oct. (*W. D.*).	Hume Coll.
f^4. ♀ imm. sk.	Nealys, Oct. (*W. D.*).	Hume Coll.
g^4, h^4. ♂ ad.; i^4. ♀ ad. sk	Jaffaria, Johore, March (*W. D.*).	Hume Coll.
k^4–p^4. Ad. et imm. sk.	Singapore Island, Dec., Feb. (*W. D.*).	Hume Coll.
q^4, r^4. Ad. sk.	Sumatra (*A. R. Wallace*).	Tweeddale Coll.
s^4. Ad. sk.	Java.	Jardine Coll.
t^4, u^4. Ad. sk.	Java.	India Museum. (Types of *M. javanicus*.)
v^4, w^4. ♂ ♀ ad. sk.	Java (*Diard*).	Salvin-Godman Coll.
x^4. Ad. sk.	Java.	Gould Coll.
y^4. ♂ ad. sk.	Luzon, Feb. (*A. B. Meyer*).	Tweeddale Coll.
z^4. ♂ ad. sk.	San Mateo, Feb. (*A. H. Everett*).	Tweeddale Coll.
a^5. ♀ ad. sk.	Monte Alban, Feb. (*A. H. Everett*).	Tweeddale Coll.
b^5. Ad. sk.	Negros.	Gurney Coll.
c^5. Ad. sk.	Negros.	Professor Steere.
d^5. ♂ ad.; e^5. ♀ jr. sk.	Valencia, Aug. (*A. H. Everett*).	Tweeddale Coll.
f^5. ♂ ad. sk.	Basol Island, July (*A. H. Everett*).	Tweeddale Coll.
g^5, h^5. ♂ ♀ ad. sk.	Zamboanga.	Voy. H.M.S. 'Challenger.'
i^5. ♂ ad. sk.	Zebu.	Voy. H.M.S. 'Challenger.'
k^5. ♂ ad. sk.	Bohol, Oct. (*A. H. Everett*).	Tweeddale Coll.
l^5. Ad. sk.	Flores.	Wallace Coll.
m^5. ♂ ad. sk.	E. Timor.	Wallace Coll.
n^5, o^5. Ad. sk.	Celebes.	Tweeddale Coll.
p^5. Skeleton.		Purchased.

8. Merops ornatus.

Variegated Bee-eater, *Lath. Gen. Syn. Suppl.* ii. p. 155, pl. 128 (1801).

Merops ornatus, *Lath. Ind. Orn. Suppl.* p. xxxv (1801); *Dumont, Dict. Sc. Nat.* xx. p. 53 (1821); *Gould, B. Austr.* ii. pl. 16 (1840); *Gray, Gen. B.* i. p. 86 (1846); *id. List Fissir. Brit. Mus.* p. 70 (1848); *Blyth, Cat. B. Mus. As. Soc.* p. 51 (1849); *Reichenb. Vög. Neuholl.* p. 39 (1850); *Bp. Consp.* i. p. 162 (1850); *Reichenb. Handb., Merop.* p. 68 (1852); *Macgill. Voy. Rattlesnake*, ii. p. 356 (1852); *Gray, P. Z. S.* 1859, p. 155; *id. Cat. B. New Guinea*, p. 55 (1859); *Wall. Ibis*, 1860, p. 147; *id. P. Z. S.* 1862, p. 338; *Schleg. Mus. Pays-Bas*, Merops, p. 4 (1863); *Gould, Handb. B. Austr.* i. p. 117 (1865); *Finsch, Neu-Guinea*, p. 16 (1865); *Ramsay, Ibis*, 1866, p. 366, 1875, p. 582; *Gray, Hand-l. B.* i. p. 100, no. 1218 (1869); *Brüggem. Abhandl. nat. Ver. Bremen*, v. p. 49 (1876);

Scl. P. Z. S. 1877, p. 105; *Masters, Proc. Linn. Soc. N. S. Wales*, i. p. 47 (1877); *Casteln. & Ramsay, t. c.* p. 379; *Ramsay, t. c.* p. 589; *Salvad. Atti R. Accad. Torino*, xiii. p. 312 (1878); *Ramsay, Proc. Linn. Soc. N. S. W.* ii. p. 179 (1878); *Forbes, P. Z. S.* 1878, p. 121; *Tweedd. Trans. Z. S.* viii. p. 42 (1878); *Ramsay, Proc. Linn. Soc. N. S. W.* iii. p. 263 (1879); *Sharpe, Journ. Linn. Soc., Zool.* xiv. p. 686 (1879); *Meyer, Ibis*, 1879, p. 57; *Layard, Ibis*, 1880, p. 300; *Salvad. Orn. Papuasia, etc.* i. p. 401 (1880); *Forbes, Rep. Zool. Voy. H.M.S. 'Challenger,'* ii. p. 85 (1880); *Meyer, Verh. z.-b. Ges. Wien*, xxxi. pp. 763, 769 (1881); *Sharpe, Journ. Linn. Soc., Zool.* xvi. p. 429 (1882); *Finsch, Vög. der Südsee*, pp. 10, 25 (1884); *Dresser, Monogr. Merop.* p. 51, pl. xiv. (1884); *Guillem. P. Z. S.* 1885, p. 586; *Ramsay, Tab. List Austr. B.* p. 3 (1888); *Salvad. Aggiunt. Orn. Papuasia*, p. 52 (1889).

Guêpier Thouin ou à longs brins, *Levaill. Hist. Nat. Guêpiers*, p. 26, pl. 4 (1807).

Philemon ornatus, *Vieill. N. Dict. d'Hist. Nat.* xxvii. p. 423 (1817).

Merops thouinii seu tenuipennis, *Dumont, Dict. Sci. Nat.* xx. p. 52 (1821).

Mountain Bee-eater, *Lewin, Nat. Hist. Birds N. S. Wales*, pl. 2 (1822).

Merops melanurus, *Vig. & Horsf. Trans. Linn. Soc.* xv. p. 208 (1826).

Merops thouinii, *Müll. Verh. Land- en Volkenk.* p. 138 (1839–44).

Melittophagus ornatus, *Reichenb. Handb., Merop.* p. 82 (1852).

Merops (Urica) ornatus, *Bp. Consp. Volucr. Anis.* p. 8 (1854).

Cosmaerops ornatus, *Cab. & Heine, Mus. Hein.* Th. ii. p. 138 (1860).

Merops modestus, *Oust. Bull. Assoc. France*, p. 248 (1878); *Salvad. Atti R. Accad. Torino*, xiii. p. 312 (1878).

Adult male. General colour above yellowish green; the lower back and rump light cobalt-blue; upper tail-coverts dark blue, with lighter blue edges; wing-coverts like the back; greater coverts rufous, with green edgings; primary-coverts dull green; quills pale chestnut or fawn-colour, externally edged with green and tipped with black, before which is a blue shade, the inner secondaries blue, like the lower back; tail black, with a narrow edging of green on the outer web; fore part of crown yellowish green, gradually shading off into orange-rufous on the hinder crown and nape; over the eye a narrow line of light green; lores and a broad band through the eye embracing the ear-coverts black, succeeded by a line of blue along the cheeks; throat and malar region yellow, shading off into chestnut on the centre of the throat, succeeded by a broad band of black across the lower throat; remainder of under surface from the fore neck downwards yellowish green, washed with emerald-green on the abdomen; under tail-coverts blue; under wing-coverts fawn-colour: "bill black; legs and feet mealy greenish grey; iris light brownish red" (*J. Gould*). Total length 9·5 inches, culmen 1·5, wing 4·55, tail 3·15, centre feathers 4·85, tarsus 0·4.

Adult female. Similar to the male in plumage. Total length 9·3 inches, culmen 0·45, wing 4·55, tail 3·1, centre feathers 4·4, tarsus 0·4.

Young. Much duller than the adults, and distinguished by the absence of the black throat, the chin and upper throat ashy white or yellow, the breast dull greenish.

Hab. Australia and the Papuan Islands and Moluccas to Celebes, Flores, and Lombock.

a. Ad. st.	Australia.	Old Coll.
b. Ad. sk.	Australia (*Vigors & Horsfield*).	Linnean Society (Type of *M. melanurus*.)
c. Ad. sk.	Australia.	Sir T. Mitchell [P.].
d. Ad. st.	Murray River, South Australia.	Sir G. Grey [P.].
e. Ad. sk.	South Australia.	Capt. Sturt [P.].
f. Ad. sk.	South Australia.	Sir G. Grey [P.].
g. ♂ ad. sk.	South Australia.	Hume Coll.
h. Ad. sk.	Point Pearse.	Old Coll.
i. Ad. sk.	New South Wales.	Gould Coll.
k. Ad. sk.	South Queensland.	Tweeddale Coll.
l. Ad. sk.	Queensland.	F. Nicholson, Esq. [P.].
m, *n*. ♂ ♀ ad. sk.	Moreton Bay, Nov. (*F. Strange*).	Gould Coll.
o. Ad. sk.	Cape Upstart.	J. B. Jukes, Esq. [P.].
p, *q*. Ad. sk.	Cape York (*Cockerell*).	Salvin-Godman Coll.
r, *s*. ♂ ♀ ad. sk.	Cape York.	Voy. H.M.S. 'Challenger.'
t. Ad. sk.	Port Albany (*Coxen*).	Tweeddale Coll.
d. Ad. sk.	Port Essington.	Capt. Chambers [P.].
v–*z*. Ad. et imm. sk.	Victoria River, N. Australia.	J. R. Elsey, Esq. [P.].
a', *b'*. ♀ ad. sk.	Booby Island, Torres Straits.	Voy. H.M.S. 'Challenger.'
c'. ♂ ad. sk.	Prince-of-Wales Island, Aug.	Voy. H.M.S. 'Alert.'
d'. ♀ ad. sk.	West Island, Oct.	Voy. H.M.S 'Alert.'
e'. Ad. sk.	New Britain.	P. L. Sclater, Esq. [P.].
f'. Imm. sk.	Duke-of-York Island (*Brown*).	Tweeddale Coll.
g'. Imm. sk.	New Guinea.	Wallace Coll.
h', *i'*. ♂ ad.; *k'*. ♀ ad. sk.	Dorey.	Wallace Coll.
l', *m'*, *n'*. Ad.; *o'*. Imm. sk.	Mysol.	Wallace Coll.
p'. ♀ ad.; *q'*. ♂ imm. sk.	Ternate, April, May (*Bernstein*).	Salvin-Godman Coll.
r', *s'*, *t'*. Ad. et imm. sk.	N. Ceram.	Wallace Coll.
u', *v'*. Ad. sk.	Sula Islands (*A. R. Wallace*).	Tweeddale Coll.
w', *x'*, *y'*. Ad. sk.	Menado, Celebes (*A. R. Wallace*).	Tweeddale Coll.
z', *a''*. Ad. sk.	Menado.	Hume Coll.
b''. ♂ ad. sk.	Celebes, Aug. (*Rosenberg*).	Salvin-Godman Coll.
c'', *d''*. Ad. et imm. sk.	Flores.	Wallace Coll.
e''–*i''*. ♂ ♀ ad. sk.	Lombock.	Wallace Coll.
k''. Ad. sk.	[Java.]	Tweeddale Coll.

9. Merops albicollis.

Le Guêpier à gorge blanche ou le Guêpier Cuvier, *Levaill. Hist. Nat. Guêpiers*, p. 37, pl. 9 (1807).

Merops albicollis, *Vieill. N. Dict. d'Hist. Nat.* xiv. p. 15 (1817);

Gray, Gen. B. i. p. 86 (1846); *id. List Fissir. Brit. Mus.* p. 70 (1848); *Bp. Consp.* i. p. 161 (1850); *Strickl. P. Z. S.* 1850, p. 216; *Hartl. Orn. W.-Afr.* p. 39 (1857); *Schl. Mus. Pays-Bas*, Merops, p. 5 (1863); *Antin. Cat. descr. Ucc.* p. 30 (1864); *Gray, Hand-l. B.* i. p. 99, no. 1209 (1869); *Sharpe, Ibis*, 1869, p. 192; *Heugl. Orn. N.O.-Afr.* i. p. 201 (1869), iv. p. lxv (1871); *Blanf. Geol. & Zool. Abyss.* p. 321 (1870); *Finsch, Trans. Z. S.* vii. p. 224 (1870); *id. & Hartl. Vög. Ostafr.* p. 185 (1870); *Shelley & Buckley, Ibis*, 1872, p. 286; *Antin. & Salvad. Viagg. Bogos*, p. 66 (1873); *Ussher, Ibis*, 1874, p. 48; *Reichen. J. f. O.* 1875, p. 18; *Bocage, Orn. Angola*, p. 88 (1871); *Nichols. P. Z. S.* 1878, p. 355; *Pelz. Verh. z.-b. Ges. Wien*, xxxi. p. 143 (1881); *Gurney, Ibis*, 1881, p. 124; *Hartl. Abhandl. nat. Ver. Bremen*, vii. p. 111 (1882); *Shelley, Ibis*, 1883, p. 556; *Dresser, Monogr. Merop.* p. 47, pl. 13 (1884); *Fischer, Zeitschr. ges. Orn.* i. p. 360 (1884); *Büttik. Notes Leyden Mus.* vii. p. 166 (1885), viii. p. 249 (1886), x. p. 71 (1888); *Hartert, J. f. O.* 1886, p. 593; *Reichen. J. f. O.* 1887, p. 306; *Shelley, Ibis*, 1890, p. 167; *Sharpe, App. to Jameson's 'Rear-Column,'* p. 411 (1890).

Merops savignii (*nec Audouin*), *Swains. Zool. Illustr.* ii. pl. lxxvi. (1821).

Merops cuvieri, *Licht. Verz. Doubl.* p. 15 (1823).

Aerops albicollis, *Reichenb. Handb., Merop.* p. 82, Taf. 449. figs. 3246–47 (1852); *Cab. & Heine, Mus. Hein.* Th. ii. p. 137 (1863).

Adult male. General colour above pale apple-green, tinged with blue on the lower back and scapulars; the hind neck and sides of neck rather more golden; quills pale fawn-colour, edged with yellowish green, with blackish tips to the feathers, forming a broad terminal band on the secondaries; the inner secondaries washed with blue; upper tail-coverts and tail pale blue, the two elongated centre tail-feathers black towards their ends; forehead and a broad line over the eye white; crown of head black; lores, a streak through the eye, and ear-coverts black; throat white, with a black band across the lower throat, followed by an irregular line of pale blue; breast and abdomen whitish, washed with pale green; under tail-coverts very pale blue; under wing-coverts pale creamy buff: "bill black; feet reddish dusky; iris scarlet" (*Heuglin*). Total length 11 inches, culmen 1·35, wing 4·0, tail 3·1, centre feathers 6·4, tarsus 0·4.

Adult female. Similar to the male. Total length 10·4 inches, culmen 1·3, wing 4.

Hab. West Africa from Senegambia to Gaboon. N.E. Africa south to the Zambesi district.

a. ♂ ad. sk.	Senegal (*D'Einville*).	Riocour Coll.
b. Ad. sk.	River Gambia.	Sharpe Coll.
c, d. Ad. sk.	Fantee (*H. T. Ussher*).	Sharpe Coll.
e–i. Ad. et juv. sk.	Accra (*T. E. Buckley*).	Shelley Coll.
k. Ad. sk.	Abouri, Aguapim (*T. E. Buckley*).	Shelley Coll.
l. Ad. sk.	River Volta (*H. T. Ussher*).	Shelley Coll.
m. Ad. sk.	Abeokuta.	F. Nicholson, Esq. [P.].
n. Ad. sk.	Old Calabar (*Mrs. Hyslop*).	Jardine Coll.

o, *p*. ♂ ♀ ad. sk.	Shonga, R. Niger (*W. A. F.*).	Forbes Coll.
q. Ad. sk.	Gaboon (*Walker*).	Sharpe Coll.
r, *s*. Ad. sk.	Gaboon (*DuChaillu*).	Tweeddale Coll.
t, *u*. ♂ ♀ ad. sk.	Koomayli, Abyssinia, June 5 (*W. T. Blanford & W. Jesse*).	Abyssinian Exped.
v, *w*, *x*. ♂ ; *y*. ♀ ad. sk.	Rairo, Bogos Land, Aug. (*W. T. Blanford & W. Jesse*).	Abyssinian Exped.
z. ♀ juv. sk.	Ain, Bogos Land, Aug. (*W. J.*).	Salvin-Godman Coll.
a'–*b'*. Ad. sk.	Ailat, Bogos (*Esler*).	Shelley Coll.
c'. ♂ ad. sk.	Nile, below Khartum, Oct.	Dr. Murie [C.].
d'. Ad. sk.	Kordofan (*Petherick*).	Jardine Coll.
e'. Ad. sk.	Om-Bâdr, Darfur.	R. Solymos, Esq. [P.].
f', *g'*, *h'*. Ad. sk.	Mombasa (*Wakefield*).	Sharpe Coll.
i'. Ad. sk.	Mombasa.	Rev.A.F.Buxton[P.].
k', *l'*. Ad. sk.	Dar-es-Salaam (*Sir J. Kirk*).	Shelley Coll.
m'. ♂ ad. sk.	Wami River, Feb.	Shelley Coll.
n'. Ad. sk.	Mtoni, March (*F. Bohndorff*).	Emin Pasha [P.].

10. **Merops viridis.**

The Bengall Bee-eater, *Albin, N. H. Birds*, iii. p. 29, pl. 30 (1740).

The Indian Bee-eater, *Edwards, N. H. Birds*, iv. p. 183, pl. 183 (1751).

Le Guespier à collier de Bengale, *Briss. Orn.* iv. p. 552 (1760).

Le Guespier à collier de Madagascar, *Briss. t. c.* p. 549, pl. 42. fig. 2 (1760); *Daubent. Pl. Enl.* vi. pl. 740.

Merops viridis, *Linn. Syst. Nat.* i. p. 182 (1766); *Gm. Syst. Nat.* i. p. 460 (1788); *Vieill. N. Dict. d Hist. Nat.* xiv. pp. 14, 26 (1817); *Frankl. P. Z. S.* 1831, p. 115; *Sykes, P. Z. S.* 1832, p. 82; *Strickl. P. Z. S.* 1842, p. 92; *Hodgs. Icon. ined. in Brit. Mus., Passeres*, pl. 22. fig. 4 (no. 875); *id. in Gray's Zool. Misc.* p. 82 (1844); *Rüpp. Syst. Uebers.* p. 24 (1845); *Gray, Gen. B.* i. p. 86 (1846); *id. Cat. Mamm. etc. Nepal pres. Hodgs.* p. 58 (1846); *id. List Fissir. Brit. Mus.* p. 69 (1848); *Blyth, Cat. B. Mus. As. Soc.* p. 53 (1849); *Bp. Consp.* i. p. 162 (1850); *Kelaart, Prodr. Cat.* p. 119 (1852); *Horsf. & Moore, Cat. B. Mus. E.I. Co.* i. 84 (1854); *Gould, B. Asia*, i. pl. 35 (1855); *Heugl. Syst. Uebers.* p. 19 (1856); *Moore, P. Z. S.* 1857, p. 87; *Adams, P. Z. S.* 1858, p. 475, 1859, p. 174; *Gould, t. c.* pp. 150, 151; *Taylor, Ibis*, 1859, p. 47; *Irby, Ibis*, 1861, p. 228; *Jerd. B. Ind.* i. p. 205 (1862); *Tristr. Ibis*, 1862, p. 278; *Schl. Mus. Pays-Bas*, Merops, p. 6 (1863); *Adams, Ibis*, 1864, p. 15; *Swinhoe, t. c.* p. 417; *Filippi, Viagg. Persia*, p. 346 (1865); *Beavan, Ibis*, 1865, p. 407; *Tristr. Ibis*, 1866, p. 84; *Walden, P. Z. S.* 1866, p. 538; *Blyth, t. c.* p. 343; *Taylor, Ibis*, 1867, p. 55; *Pelz. Ibis*, 1868, p. 307; *Beavan, Ibis*, 1869, p. 407; *Gray, Hand-l. B.* i. p. 99, no. 1210 (1869); *Blanf. Ibis*, 1870, p. 465; *id. Geol. & Zool. Abyss.* p. 320 (1870); *id. J. A. S. Beng.* xl. p. 271 (1871); *Stoliczka, op. cit.* xlii. p. 232 (1872); *Holdsw. P. Z. S.* 1872, p. 422; *Shelley, B. Egypt*, p. 171 (1872); *Jerd. Ibis*, 1872, p. 2; *Hayes Lloyd, Ibis*, 1873, p. 406; *Hume, Nests & Eggs Ind. B.* p. 99 (1873); *id. Str. F.* i. p. 167 (1873); *Adams, t. c.* p. 371; *Ball, Str. F.* ii. p. 386 (1874); *Hume, t. c.* p. 469; *id. Str. F.* iii. p. 49 (1875); *Blyth & Wald. B. Burm.* p. 73 (1875); *Butler,*

Str. F. iii. p. 455; *Fairb. Str. F.* iv. p. 254 (1876); *Armstr. t. c.* p. 304; *Hume, t. c.* p. 415; *Dresser, B. Eur.* v. p. 171, pl. 297(1876); *Blanf. East. Pers.* ii. p. 124 (1876); *Godw.-Aust. J. A. S. Beng.* xlv. p. 69 (1876); *Hume, Str. F.* v. p. 186 (1877); *Fairb. t. c.* p. 394; *Anderson, Rep. Zool. Yun-nan*, p. 582 (1878); *Hume & Davison, Str. F.* vi. pp. 67, 498 (1878); *Hume, Str. F.* vii. p. 35 (1878); *Davidson & Wenden, t. c.* p. 77; *Ball, t. c.* p. 203; *Cripps, t. c.* p. 258; *Legge, B. Ceylon*, p. 309 (1879); *Hume, Str. F.* viii. p. 85 (1879); *Scully, t. c.* p. 237; *Doig, t. c.* p. 370; *Butler, Cat. B. Sind etc.* p. 15 (1879); *Tiraut, Bull. Soc. Comm. Agric. Cochin-Chine*, (3) i. p. 97 (1879); *Vidal, Str. F.* ix. p. 48 (1880); *Bingham, t. c.* p. 152; *Butler, Cat. B. S. Bomb. Pres.* p. 17 (1880); *Reid, Str. F.* x. p. 20 (1881); *Oates, t. c.* p. 186; *Davidson, t. c.* p. 295; *C. Swinh. Ibis*, 1882, p. 101; *Oates, Handb. B. Brit. Burm.* ii. p. 65 (1883); *Parker, Ibis*, 1883, p. 197; *Davison, Str. F.* x. p. 350 (1883); *Tristr. Faun. & Flor. Palest.* p. 89 (1884); *Dresser, Monogr. Merop.* p. 31, pls. 8, 9 (1884); *Murray, Vertebr. Faun. Sind*, p. 107 (1884); *Swinh. & Barnes, Ibis*, 1885, p. 60; *Taylor, Str. F.* x. p. 456 (1887); *Terry, t. c.* p. 470; *Hume, Str. F.* xi. p. 42 (1888); *St. John, Ibis*, 1889, p. 157; *Oates, ed. Hume's Nests & Eggs Ind. B.* iii. p. 60 (1890).

Le Guêpier vert à gorge bleu, *Montb. Hist. Nat. Ois.* vi. p. 497 (1779).

Le Guêpier jaune de la côte de Coromandel, *Sonn. Voy. Ind. Orient.* ii. p. 213 (1782).

Indian Bee-eater, *Lath. Gen. Syn.* i. pt. 2, p. 670 (1782).

Coromandel Bee-eater, *Lath. t. c., Suppl.* i. p. 120 (1787).

Merops coromandus, *Lath. Ind. Orn.* i. p. 272 (1790).

Le Guêpier à gorge bleu, or Le Guêpier Lamarck, *Levaill. Hist. Nat. Guêpiers*, p. 39, pl. 10 (1807).

Le Guêpier citron, *Levaill. t. c.* p. 42, pl. 11 (1807).

Merops lamarcki, *Cuv. Règne Anim.* i. p. 442 (1829); *Strickl. P. Z. S.* 1850, p. 216; *Scl. Contr. Orn.* 1882, p. 124.

Merops viridissimus, *Swains. B. W. Afr.* ii. p. 82 (1837); *Bp. Consp.* i. p. 162 (1850); *Hartl. Orn. W.-Afr.* p. 40 (1857); *id. Faune Madag.* p. 32 (1861); *id. J. f. O.* 1861, p. 107; *Schl. Mus. Pays-Bas*, Merops, p. 6 (1863); *Antin. Cat. descr. Ucc.* p. 30 (1864); *Gray, Hand-l. B.* i. p. 99, no. 1210 (1869); *Heugl. Orn. N.O.-Afr.* i. p. 202 (1869); *Finsch, Trans. Z. S.* vii. p. 224 (1870); *Shelley, Ibis*, 1871, p. 48; *Antin. & Salvad. Viagg. Boyos*, p. 66 (1873); *Pelz. Sitz. z.-b. Ges. Wien*, xxxii. p. 501 (1882).

Merops indicus, *Jerd. Madr. Journ.* xi. p. 227 (1840).

Merops ferrugeiceps, *Hodgs. Icon. ined. in Brit. Mus., Passeres*, pl. 21. fig. (no. 560); *id. in Gray's Zool. Misc.* p. 82 (1844).

Merops torquatus, *Hodgs. Icon. ined., Passeres*, pl. 22. fig. 2 (no. 665); *id. in Gray's Zool. Misc.* p. 82 (1844).

Merops luteus, *Reichenb. Handb., Merop.* p. 75, Taf. 448. fig. 3433 (1852).

Phlothrus viridissimus, *Reichenb. t. c.* p. 82; *Cab. & Heine, Mus. Hein.* Th. ii. p. 137 (1860).

Phlothrus viridis, *Reichenb. t. c.* p. 82 (1852); *Cab. & Heine, t. c.* p. 136 (1863).

Phlothrus luteus, *Reichenb. t. c.* p. 82.

Merops viridis, var. ferrugeiceps, *Blyth, Ibis*, 1870, p. 162.

Adult male. Grass-green above, the feathers reddish buff at their bases, producing a rufescent shade on the hind neck; wing-

coverts and inner secondaries also green, the latter, as well as the upper tail-coverts, slightly washed with blue; all the rest of the quills fawn-buff, tipped with black and margined with green; tail-feathers green, the elongated portion of the centre ones dusky blackish, all the rest inclining to fawn-buff on the inner web; head like the back, slightly washed with emerald-green, and showing a narrow eyebrow of the latter colour; lores and a broad band through the eye and along the ear-coverts black; sides of face and cheeks yellowish green, washed with blue below the black ear-stripe and at the base of the cheeks; under surface of body yellowish green, washed with emerald-green on the breast and abdomen; on the fore neck a transverse band of black, washed with blue; on each side of the vent a patch of silky-white feathers; under wing-coverts and quill-lining fawn-buff: "bill black, becoming brown at the gape; eyelids smoky brown; feet pinkish grey; claws horn-colour; iris bright red" (*E. W. Oates*). Total length 9·4 inches, culmen 1, wing 3·6, tail 2·7, longest tail-feathers 4·8, tarsus 0·4.

Adult female. Similar to the male in colour, but with the blue on the sides of the face a little less pronounced. Total length 10 inches, culmen 1·2, wing 3·75, tail 2·7, centre-feathers 5·8, tarsus 0·35.

This species appears to be subject to considerable variations, none of which, however, are of specific importance. The specimens from the Eastern Himalayas and from the Burmese countries are constantly more tawny on the head and back than those from more western countries, and scarcely any sign of this tawny colour is seen in African examples. The blue on the throat is most pronounced in specimens from N.W. India; but I believe that a good deal of this colour is due to the season of the year, as it is always more pronounced in the breeding-season.

Hab. Egypt and North-eastern Africa, extending to Senegambia, and eastwards through Persia and Baluchistan over the whole of the Indian Peninsula and Ceylon, eastwards through the Burmese countries to Cochin China.

a, b. Ad. sk.	Egypt.	Sir S. Baker [P.].
c–f. ♂ ad.; *g.* ♀ ad. sk.	Egypt, Feb., March (*G. E. S.*).	Shelley Coll.
h, i. Ad. sk.	Tani, Soudan.	Capt. Willoughby Verner [P.].
k. Ad. sk.	Nubia.	Sharpe Coll.
l. ♂ ad. sk.	Atfeh, Annesley Bay, Feb.	W. T. Blanford, Esq. [C.].
m, n. ♂ juv.; *o.* ♀ juv. sk.	Zoulla, Abyssinia, June (*W. Jesse*).	Sharpe Coll.
p. ♀ juv. sk.	Kelamet, Lebka R., Bogos Land, July.	W. T. Blanford, Esq. [C.].
q. ♀ ad. sk.	Khist, N.E. of Bushire.	Sir O. St. John [C.].
r. ♂ ad. sk.	Bampur, Baluchistan, April.	W. T. Blanford, Esq. [C.].
s. ♀ ad. sk.	Gwadar, April.	W. T. Blanford, Esq. [C.].

t. ♂ ad. sk.	Jacobabad, Sindh, Dec. (*A. O. H.*).	Hume Coll.
u, *v*. ♂ ad. sk.	Sukhur, Dec. (*A. O. H.*).	Hume Coll.
w, *x*. ♀ ad. sk.	Larkhana, Dec., Jan. (*A. O. H.*).	Hume Coll.
y, *z*. Ad. sk.	Kutch (*F. Stoliczka*).	Hume Coll.
a', *b'*. ♂ ♀ ad. sk.	Deesa, Jan. (*E. A. Butler*).	Hume Coll.
c'. ♂ ad. sk.	Jodhpur, Oct.	Hume Coll.
d', *e'*. ♂ ad.; *f'*, *g'*, *h'*. ♀ ad. sk.	Sambhur, Dec., Jan., April, June (*R. M. Adam*).	Hume Coll.
i', *k'*. ♂ ad. sk.	Ajmere, Jan. (*E. A. Butler*).	Hume Coll.
l'–*w'*. ♂ ♀ ad. sk.	Gurgaon Distr., Feb. to May (*W. N. Chill*).	Hume Coll.
x'. ♀ ad. sk.	Murdan.	Hume Coll.
y'. Ad. sk.	Dera-Ghazi-Khan.	Hume Coll.
z'. Ad. sk.	Mooltan.	Gould Coll.
a''. Ad. sk.	Lahore (*C. H. T. Marshall*).	R. B. Sharpe, Esq. [P.].
b''. ♀ juv. sk.	Murri (*J. Biddulph*).	Tweeddale Coll.
c''. ♂ ad. sk.	Hazaree-bagh (*J. Biddulph*).	Tweeddale Coll.
d''. ♀ ad. sk.	Rawal Pindi (*J. Biddulph*).	Tweeddale Coll.
e''. Ad. sk.	Cashmere.	E. M. Langworthy, Esq. [P.].
f'', *g''*. Ad. sk.	Masuri.	Hume Coll.
h''. Ad. sk.	Dehra Dhoon.	Tweeddale Coll.
i''. Ad. sk.	Kumaon (*Strachey*).	India Museum.
k'', *l''*, *m''*. Ad.; *n''*, *o''*. ♀ ad. sk.	Etawah Distr., March.	Hume Coll.
p'', *q''*. Ad. sk.	Jhansie, Sept.	Hume Coll.
r''. ♀ ad. sk.	Saugor, Sept.	Hume Coll.
s'', *t''*. ♂ ♀ ad. sk.	Futtehgurh Distr., March (*A. Anderson*).	Hume Coll.
u'', *v''*, *w''*. Ad. sk.	Tirhoot, April.	Hume Coll.
x'', *y''*. Ad. sk.	Nepal.	Hodgson Coll.
z''. Ad. sk.	Nepal (*B. H. Hodgson*).	India Museum.
a^3. Ad. sk.	Sikhim.	Hume Coll.
b^3. Ad. sk.	Darjeeling.	Hodgson Coll.
c^3, *d*^{3}, *e*^{3}. Ad. sk.	Bhutan Doars, Jan., Feb. (*L. Mandelli*).	Hume Coll.
f^3, *g*^{3}. ♂ ad.; *h*^{3}. ♀ ad. sk.	Goalundo, Dec.	Hume Coll.
i^3. ♀ ad. sk.	N. Khasia Hills, Feb. (*A. W. Chennell*).	Tweeddale Coll.
k^3, *l*^{3}. Ad. sk.	Cachar, Jan.	Hume Coll.
m^3. ♂ ad. sk.	Sylhet, Jan. (*A. O. H.*).	Hume Coll.
n^3, *o*^{3}. ♂ ad.; *p*^{3}. ♀ ad. sk.	Calcutta, Dec., Jan.	Hume Coll.
q^3. ♂ ad. sk.	Maunbhoom, Feb. (*R. C. Beavan*).	Tweeddale Coll.
r^3. Ad. sk.	Behar.	Hodgson Coll.
s^3–*v*^{3}. Ad. sk.	Kamptee.	Dr. R. B. Hinde [P.].
w^3. ♀ ad. sk.	Mhow, Oct.	Colonel Swinhoe [P.].
x^3, *y*^{3}. Ad. sk.	Khandeish.	India Museum.
z^3, *a*^{4}. ♂ ad. sk.	Nandurbar, Khandeish, Dec. (*J. Davidson*).	Hume Coll.
b^4. Ad. sk.	Matterhan, Nov.	Hume Coll.
c^4, *d*^{4}. ♂ ♀ ad. sk.	Bombay, Jan. (*J. Armstrong*).	Hume Coll.

e^4–h^4. ♂ ad.; i^4, k^4. ♀ ad. sk.	Ahmednuggur, Sept. to Jan. (*S. B. Fairbank*).	Tweeddale Coll.
l^4, m^4. ♀ ad. et juv. sk.	Khandala, May (*S. B. Fairbank*).	Tweeddale Coll.
n^4, o^4. Ad. et juv. sk.	Deccan (*Sykes*).	India Museum.
p^4. Juv. sk.	Madras.	Rev. H. H. Baber [P.].
q^4. Juv. sk.	Mysore (*R. G. W. R.*).	Tweeddale Coll.
r^4. ♂ ad. sk.	Seegore, Nilghiris, April (*W. Davison*).	Hume Coll.
s^4, t^4. Ad. et juv. sk.	Malabar.	Tweeddale Coll.
u^4, v^4. Ad. sk.	Anjango, Travancore, June.	Hume Coll.
w. ♀ ad. sk.	Trevandrum, June.	Hume Coll.
x^4, y^4. Ad. sk.	Ceylon.	Tweeddale Coll.
z^4, a^5. Ad. sk.	Ceylon, March, June.	Colonel Legge [P.].
b^5. ♂ ad. sk.	Putlam, Ceylon, July.	Hume Coll.
c^5, d^5. ♂ ad.; e^5, ♀ ad. sk.	Elephant Point, Burma, Dec. (*J. Armstrong*).	Hume Coll.
f^5. ♂ ad. sk.	Syriam, Jan. (*J. Armstrong*).	Hume Coll.
g^5. ♀ ad. sk.	Akyab, March (*J. Armstrong*).	Hume Coll.
h^5, i^5. Ad. sk.	Pegu, March, Dec. (*E. W. O.*).	Hume Coll.
k^5. ♀ ad.; l^5. ♀ var. sk.	Lower Pegu, July, Oct.	Oates Coll.
m^5, n^5. ♂ ad.; o^5. ♀ ad. sk.	Rangoon, June, Nov. (*R. G. W. R.*).	Tweeddale Coll.
p^5, q^5. Ad. sk.	Mandalay and Shienpagah, Sept. Jan.	Dr. J. Anderson [C.].
r^5, s^5. Ad. sk.	Karen Hills, Nov. (*R. G. W. R.*).	Tweeddale Coll.
t^5. Ad. sk.	Tonghoo, Oct. (*E. W. Oates*).	Hume Coll.
u^5, v^5, w^5. ♂ ad.; x^5, y^5. ♀ ad. sk.	Pahpoon, Dec., Jan. (*W. Davison*).	Hume Coll.
z^5, a^6, b^6. ♂ ad.; c^6, d^6. ♀ ad. sk.	Kaukaryit, Nov. (*J. Darling*).	Hume Coll.
e^6, f^6, g^6. ♂ ad. sk.	Thatone, Nov., Dec. (*W. Davison*).	Hume Coll.
h^6, i^6. ♂ ♀ ad. sk.	Amherst, Jan., March.	Hume Coll.
k^6. ♂ ad. sk.	Dargwin, Jan. (*W. Davison*).	Hume Coll.
l^6, m^6. ♂ ♀ ad. sk.	Moulmein, Nov. (*W. Davison*).	Hume Coll.
n^6. ♀ ad. sk.	Moulmein, July (*R. C. Beavan*).	Tweeddale Coll.
o^6–r^6. ♂ ad.; s^6. ♀ ad. sk.	Mergui, Nov., Dec. (*W. Davison*).	Hume Coll.
t^6-w^6. Ad. sk.	Cochin China.	M. E. Pierre [P.].

11. **Merops muscatensis.**

Merops muscatensis, *Sharpe, Ibis*, 1866, pp. 15, 65; *Dresser, Monogr. Merop.* p. 40 *a*, pl. 10 (1886).

Adult (type of species). Similar to *M. viridis*, which it approaches in the colour of the upper and under surface, but differs from it in the deep blue of the cheeks and throat, and in the narrow blue

forehead and eyebrow. Total length 7·5 inches, culmen 1·0, wing 3·75, tail 3·7, tarsus 0·35.

Hab. Neighbourhood of Muscat, Arabia.

a. Ad. sk.	Muscat.	Colonel Miles [P.].	(Type of the species.)
b, c. Ad. sk.	Muscat.	Dr. Jayakar [P.].	

12. Merops cyanophrys.

Phlothrus cyanophrys, *Cab. & Heine, Mus. Hein.* Th. ii. p. 137 (1860).

Merops cyanophrys, *Heugl. Orn. N.O.-Afr.* i. p. 203, pl. vi. (1869); *Gray, Hand-l. B.* i. p. 100, no. 1212 (1869); *Hartl. P. Z. S.* 1881, p. 957; *Yerbury, Ibis,* 1886, p. 15.

Adult. Similar to *M. viridis*, but more bluish green both above and below, and distinguished by its deep cobalt-blue throat and cheeks, the entire forehead and a broad eyebrow being of the same deep blue colour. Total length 7·9 inches, culmen 1·3, wing 3·65, tail 2·9, centre tail-feathers 3·6, tarsus 0·35.

Hab. Southern Arabia. The locality "Sennaar" attributed to this species in the Paris Museum, and admitted by Mr. Dresser, will doubtless prove to have been given in error.

a. Ad. sk.	Sheik Othman, Aden.	Colonel Yerbury [P.].
b. Ad. sk.	Aden.	C. Chevallier, Esq. [P.].

13. Merops boehmi.

Merops (Melittophagus) boehmi, *Reichen. J. f. O.* 1882, p. 233, pl. ii. fig. 3.

Merops dresseri, *Shelley, P. Z. S.* 1882, p. 303, pl. xvi.

Melittophagus boehmi, *Reichen. J. f. O.* 1884, p. 236.

Airops boehmi, *Reichen. t. c.* p. 236.

Merops boehmi, *Dresser, Monogr. Merop.* p. 45, pl. xii. (1884) *Matschie, J. f. O.* 1887, p. 140.

Adult (type of *M. dresseri*). General colour above bright grass-green, including the scapulars and wing-coverts; the lower back, rump, and upper tail-coverts slightly washed with blue; quills green, internally pale fawn-colour, and tipped with blackish, the inner secondaries entirely green; tail-feathers green, with black shafts and with black tips, the latter slightly shaded with blue; crown of head cinnamon-rufous or light bay; a line at the base of the forehead, lores, and a band through the eye to the ear-coverts black; cheeks and throat fawn-colour, the former separated from the ear-coverts by a line of blue; remainder of under surface from the fore neck downwards green, slightly bluish on the under tail-coverts; on each side of the vent a tuft of ashy feathers; under wing-coverts fawn-colour, as well as the lining of the quills. Total length 9·5 inches, culmen 1·2, wing 3·2, tail 2·8, centre tail-feathers 5·3, tarsus 0·35.

Hab. Eastern Africa.

a. Ad. sk.	Rovuma River, E. Africa (*J. Thompson*).	Shelley Coll.	(Type of *M. dresseri*.)

14. Merops natalensis.

Merops nubicoides (!), *Des Murs et Pucher. Rev. Zool.* 1846, p. 243; *Bp. Consp.* i. p. 161 (1850); *Kirk, Ibis*, 1864, p. 324; *Gray, Hand-l. B.* i. p. 100, no. 1214 (1869); *Gurney in Anderss. B. Dam.-Ld.* p. 62 (1872); *Ayres, Ibis*, 1874, p. 102; *Sharpe, ed. Layard's B. S. Afr.* pp. 99, 804, pl. 4. fig. 2 (1876); *Bocage, Orn. Angola*, p. 537 (1881); *Sharpe in Oates' Matabele-Land*, App. p. 301 (1881); *Shelley, Ibis*, 1881, p. 242; *Ayres, Ibis*, 1884, p. 223, 1885, p. 343; *Dresser, Mongr. Merop.* p. 93, pl. 21 (1884); *Reichen. J. f. O.* 1887, p. 308.

Merops natalensis, *Reichenb. Handb., Merop.* p. 78, Taf. 451. figs. 3252–53 (1852); *Cab. & Heine, Mus. Hein.* Th. ii. p. 142 (1860); *Schl. Mus. Pays-Bas*, Merops, p. 7 (1863); *Finsch & Hartl. Vög. Ostafr.* p. 184 (1870).

Melittotheres natalensis, *Reichenb. Handb., Merop.* p. 82 (1852).

Melittotheres nubicoides, *Bp. Consp. Volucr. Anis.* p. 8 (1854).

Merops nubicus (*nec Gm.*), *Layard, B. S. Afr.* p. 69 (1867); *Bocage, Orn. Angola*, p. 90 (1877).

Adult. General colour above pinkish vermilion; the lower back, rump, and upper tail-coverts light cobalt-blue, deeper on the latter; wings darker crimson than the back, with a blackish band at the ends of all but the inner secondaries, which are greenish at the ends; tail-feathers dark crimson, with a blackish band at the end, the long centre ones black for the terminal third; crown of head green, a little brighter on the eyebrow; lores, feathers below the eye, and ear-coverts black; cheeks and under surface of body beautiful rosy pink, paler on the breast; the lower abdomen pale blue, as also the under tail-coverts, the longer ones being greenish; on each side of the vent a tuft of silky white feathers; under wing-coverts and quill-lining bay or light chestnut: "bill black; feet dingy ash-brown; iris umber-brown" (*T. Ayres*). Total length 14 inches, culmen 1·65, wing 5·75, tail 3·8, centre tail-feathers 7·5, tarsus 0·4.

Young. Similar to the adult, but duller in colour, and having a bluish-green throat.

Hab. S.E. Africa, extending northwards to the Zambesi, westwards into Damara-Land and the Upper Congo region.

a. Ad. st.	South Africa.	Edward Wilson, Esq. [P.].
b. Ad. sk.	Port Natal.	Sharpe Coll.
c. ♂ ad.; *d*, *e.* ♀ ad. et juv. sk.	Eland's River, Transvaal, Feb. (*T. Ayres*).	Shelley Coll.
f. ♂ ad. sk.	Rustenberg, Jan. 16 (*T. Ayres*).	Gurney Coll.
g. Ad. sk.	Daka, Matabele-Land (*F. Oates*).	W. E. & C. G. Oates, Esqrs. [P.].
h. ♂ ad. sk.	Geruah (*F. Oates*).	W. E. & C. G. Oates, Esqrs. [P.].
i, *k.* Ad. sk.	Makalaka Country (*Dr. Bradshaw*).	Shelley Coll.
l, *m.* Ad. sk.	Zambesi.	Sir John Kirk [P.].
n. ♀ ad. sk.	Otjimbinque, Damara-Land, Dec. (*C. J. Andersson*).	Tweeddale Coll.

15. Merops nubicus.

Le Guêpier rouge à tête bleue, *Montb. Hist. Nat. Ois.* vi. p. 506 (1779).

Le Guêpier de Nubie, *Daubent. Pl. Enl.* vi. pl. 649.

Blue-headed Bee-eater, *Lath. Gen. Syn.* i. pt. 2, p. 680 (1782).

Merops nubicus, *Gm. Syst. Nat.* i. p. 464 (1788); *Gray, Gen. B.* i. p. 86 (1846); *Strickl. P. Z. S.* 1850, p. 216; *Bp. Consp.* i. p. 161 (1850); *Reichenb. Handb., Merop.* p. 79, Taf. 451. figs. 3254–55 (1852); *Hartl. Orn. Westafr.* p. 41 (1857); *Cab. & Heine, Mus. Hein.* Th. ii. p. 141 (1860); *Schl. Mus. Pays-Bas*, Merops, p. 7 (1863); *Antin. Cat. descr. Ucc.* p. 30 (1864); *Gray, Hand-l. B.* i. p. 100, no. 1213 (1869); *Heugl. Orn. N.O.-Afr.* i. p. 199 (1869), iv. pl. lxv. (1870); *Blanf. Geol. & Zool. Abyss.* p. 321 (1870); *Finsch, Trans. Z. S.* vii. p. 321 (1870); *id. & Hartl. Vög. Ostafr.* p. 182 (1870); *Fischer & Reichen. J. f. O.* 1878, p. 256; *Shelley, P. Z. S.* 1881, p. 569; *Hartl. Abhandl. nat. Ver. Bremen*, vii p. 111 (1881); *Gurney, Ibis*, 1882, p. 72; *Forbes, Ibis*, 1883, pp. 519, 527; *Shelley, t. c.* p. 556; *Dresser, Monogr. Merop.* p. 89, pl. 20 (1884); *Shelley, Ibis*, 1885, p. 397; *Hartert, J. f. O.* 1886, p. 592; *Oust. Bibl. haut Etudes*, xxxi. Art. 10, p. 4 (1886); *Shelley, Ibis*, 1888, p. 296.

? Merops brasiliensis, *Gm. Syst. Nat.* i. p. 462 (1788).

Merops superbus, *Penn. Ind. Zool. Suppl.* p. 33 (1790); *Shaw & Nodd. Nat. Misc.* iii. pl. 78 (1791); *Vieill. N. Dict. d'Hist. Nat.* xiv. p. 23 (1817).

Merops cæruleocephalus, *Lath. Ind. Orn.* i. p. 272 (1790); *Vieill. l. c.* p. 21 (1817).

Melittotheres nubicus, *Reichenb. Handb., Merop.* p. 82 (1852).

Adult. Similar to *M. natalensis*, but distinguished by having the throat green like the head: "bill black; feet dusky lead-colour; iris crimson" (*Von Heuglin*). Total length 13 inches, culmen 1·6, wing 5·8, tail 3·8, tarsus 0·4.

Hab. West Africa, from Senegambia to the Niger. Equatorial Africa to the Zanzibar district of Eastern Africa.

a. ♂ ad. sk.	Senegal (*d'Einville*).	Riocour Coll.
b. Ad. sk.	River Gambia.	Sharpe Coll.
c. Ad. sk.	River Gambia (*Sir A. Moloney*).	Shelley Coll.
d. Ad. sk.	Bissao (*Verreaux*).	H. E. Dresser, Esq. [P.].
e. ♀ ad. sk.	Shonga, R. Niger.	Forbes Coll.
f. ♀ ad. sk.	Rabba, R. Niger.	Forbes Coll.
g. Ad. sk.	Kaneh, 3 days above Khartoum, Feb.	F. Bohndorff [C.].
h. ♀ ad. sk.	Atfeh, Annesley Bay, Feb.	W. T. Blanford, Esq. [C.].
i. Ad. st.	White Nile.	Purchased.
k. Ad. sk.	Shoa (*Sir W. Harris*).	India Museum.
l. Ad. sk.	Masai-Land (*J. Thompson*).	Shelley Coll.
m, *n.* Ad. sk.	Mombasa (*E. C. Buxton*).	Rev. A. F. Buxton [P.].
o. ♂ ad. sk.	Manda Island, Nov.	F. J. Jackson, Esq. [P.].

p, q, r. Ad. sk.	Lamu (*Sir J. Kirk*).	Shelley Coll.
s. ♂ ad. sk.	Lamu, Oct. (*Dr. Fischer*).	Shelley Coll.
t, u. Ad. sk.	Pangani River (*Sir J. Kirk*).	Shelley Coll.

16. Merops malimbicus.

Merops bicolor (*nec Bodd.*), *Daud. Ann. Mus. d'Hist. Nat.* ii. p. 440, pl. 62. fig. 1 (1803); *Gray, Gen. B.* i. p. 86 (1846); *Bp. Consp.* i. p. 162 (1850); *Reichenb. Handb., Merop.* p. 79, Taf. 452. figs. 3256–57 (1852); *Hartl. Orn. W.-Afr.* p. 41 (1857); *Schl. Mus. Pays-Bas*, Merops, p. 7 (1863); *Reichen. J. f. O.* 1875, p. 19, 1877, p. 21; *Bocage, Orn. Angola*, p. 89 (1877).

Merops malimbicus, *Shaw, Nat. Misc.* xvii. pl. 701 (1806); *Gray, Hand-l. B.* i. p. 100, no. 1215 (1869); *Ussher, Ibis*, 1874, p. 48; *Dresser, Monogr. Merop.* p. 87, pl. 19 (1884); *Hartert, J. f. O.* 1886, p. 593; *Shelley, Ibis*, 1890, p. 166; *Sharpe, App. to Jameson's Rear Column*, p. 399 (1890).

Le Guêpier gris-rose, *Levaill. Hist. Nat. Guêpiers*, p. 28, pl. 5 (1807).

Tephraerops bicolor, *Reichenb. Handb., Merop.* p. 82 (1852).

Adult male. Upper surface dark ashy grey with a rosy shade; wing-coverts dark grey, with a slight greenish shade on the inner secondaries; quills black; upper tail-coverts and tail vinous red, with dusky ends to the feathers and black shafts; head uniform dark grey; lores and a streak through the eye and ear-coverts black; chin and a broad streak along the cheeks white; remainder of under surface of body rich rose-colour; under tail-coverts dark ashy grey, washed with rosy; under wing-coverts and quill-lining dark slate-colour, with a rosy tinge on the former: "bill and feet black; iris red" (*Hartert*). Total length 10·2 inches, culmen 1·6, wing 5·4, tail 3·1, centre tail-feathers 4·6, tarsus 0·45.

Hab. West Africa, from the Gold Coast to Gaboon.

a. Ad. sk.	Cape Coast.	Col. Strachan [P.].
b, c. Ad. sk.	Accra.	Sharpe Coll.
d, e, f. Ad. sk.	Abouri, Aguapim, Feb. 20 (*G. E. S. & T. E. Buckley*).	Shelley Coll.
g. ♂ ad. sk.	Gaboon, June 24 (*T. Thompson*).	Shelley Coll.
h. Ad. sk.	River Ogowè (*H. T. Ansell*).	Shelley Coll.
i, k. Ad. sk.	Gaboon.	Sharpe Coll.

17. Merops breweri.

Meropogon breweri, *Cass. Proc. Philad. Acad.* 1859, p. 34; *Heine, J. f. O.* 1859, p. 433; *Cass. Journ. Philad. Acad.* (2) iv. p. 321, pl. 49. fig. 1 (1860); *Sharpe & Bouvier, Bull. Soc. Zool. France*, i. p. 40 (1876).

Bombylonax breweri, *Heine, J. f. O.* 1859, p. 434; *Reichen. J. f. O.* 1877, p. 21.

Archimerops breweri, *Hartl. Arch. f. Naturg.* xxvi. pt. 2, p. 90 (1860).

Nyctiornis breweri, *Gray, Hand-l. B.* i. p. 98, no. 1200 (1869).

Merops breweri, *Bocage, Orn. Angola*, p. 537 (1881); *Dresser, Monogr. Merop.* p. 21, pl. 5 (1884).

Adult male. General colour above deep grass-green, wing-coverts and quills green like the back, the inner webs of the latter rufescent near the base and dusky at their ends; centre tail-feathers elongated, grass-green; the remainder deep chestnut, with a band of green at the end, the outer feather green for the whole of the outer web; crown of head and nape black, extending on the hind neck; sides of face and ear-coverts, cheeks, throat, sides of neck, and fore neck black; chest chestnut, this colour pervading the upper breast; remainder of under surface of body deep fawn-colour or pale chestnut, with a patch of green on the sides of the upper breast; under tail-coverts like the abdomen, slightly washed with olive; under wing-coverts and axillaries deep fawn-colour; quills below dusky, fawn-colour along the inner edge: "bill black; feet dark greyish green; iris red" (*Falkenstein*). Total length 13 inches, culmen 1·9, wing 4·7, tail 4·2, centre tail-feathers 6, tarsus 0·45.

Hab. West Africa, from Gaboon to the Congo.

a. Ad. st.	Gaboon.	Purchased.
b, c. ♂ ad. sk.	Chiloango, Congo (*Dr. Lucan*).	Shelley Coll.

4. MEROPOGON.

	Type.
Meropogon, *Bp. Consp.* i. p. 164 (1850)	M. forsteni.
Pogonomerops, *Cab. & Heine, Mus. Hein.* Th. ii. p. 132, note (1860)	M. forsteni.

Range. Confined to Celebes.

1. Meropogon forsteni.

Meropogon forsteni, *Bp. Consp.* i. p. 164 (1850, *ex Temm. MSS.*); *Reichenb. Handb., Merop.* p. 10 (1852); *Tweedd. Trans. Z. S.* viii. p. 42 (1872); *Meyer, J. f. O.* 1872, p. 405; *Gould, B. Asia*, i. pl. 39 (1873); *Meyer, Ibis*, 1879, p. 58; *Dresser, Monogr. Merop.* p. 15, pl. 4 (1884).

Pogonomerops forsteni, *Cab. & Heine, Mus. Hein.* Th. ii. p. 132, note (1860).

Merops forsteni, *Schl. Mus. Pays-Bas*, Merops, p. 8 (1863); *Meyer, J. f. O.* 1871, p. 231.

Nyctiornis forsteni, *Gray, Hand-l. B.* i. p. 98, no. 1199 (1869); *Brügg. Abhandl. nat. Ver. Bremen*, v. p. 49 (1876).

Adult. General colour bright grass-green, including the wings, the quills having blackish shafts and dusky ends; centre tail-feathers green with black shafts, the rest of the tail-feathers chestnut, with narrow greenish edges, more distinct on the two outer ones; crown of head, sides of face, and ear-coverts, as well as the throat and breast, deep ultramarine; the occiput, hind neck, and sides of neck dingy maroon-brown; abdomen dusky blackish, slightly washed with green; under tail-coverts dull chestnut, with green margins. Total length 13 inches, culmen 1·9, wing 4·5, tail 4·4, centre tail-feathers 6·9, tarsus 0·4.

Hab. Celebes.

a. ♂ ad. sk.	Rurukan, Celebes (*A. B. Meyer*).	Tweeddale Coll.

5. NYCTIORNIS.

	Type.
Nyctinomus, *Swainson, Zool. Illustr.* 2nd ser. ii. text to pl. 56 (1831)	N. amicta.
Nyctiornis, *Swainson, Zool. Illustr.* 2nd ser. ii. text to pl. 56 (1831)	N. amicta.
Alcemerops, *Isid. Geoffr. St.-Hilaire, Nouv. Ann. Mus. d'Hist. Nat.* i. p. 395 (1832)	N. amicta.
Bucia, *Hodgs. J. A. S. Beng.* v. p. 360 (1836)	N. athertoni.
Napophila, *Hodgs. J. A. S. Beng.* x. p. 29 (1841)	N. athertoni.

Range. India, extending to the Burmese countries, Siam and Cochin China, southwards through the Malayan Peninsula to Sumatra and Borneo.

Key to the Species.

a. Long throat-feathers blue; head bluish green .... *athertoni*, p. 88.
b. Long throat-feathers scarlet; fore part of the crown lilac ..... *amicta*, p. 90.

1. Nyctiornis athertoni.

Nyctiornis athertoni, *Jard. & Selby, Ill. Orn.* ii. pl. 58 (1825–43); *McClell. P. Z. S.* 1839, p. 155; *Gray, Gen. B.* i. p. 87 (1846); *id. Cat. Mamm. etc. Nepal pres. Hodgs.* p. 58 (1846); *id. Cat. Fissir. Brit. Mus.* p. 72 (1848); *Bp. Consp.* i. p. 164 (1850); *Gould, B. Asia*, i. pl. 37 (1850); *Reichenb. Handb., Merop.* p. 81, Taf. 453. figs. 3262–63 (1852); *Bp. Consp. Volucr. Anis.* p. 8 (1854); *Horsf. & Moore, Cat. B. Mus. E. I. Co.* i. p. 89 (1854); *Cab. & Heine, Mus. Hein.* Th. ii. p. 132 (1860); *Jerd. B. Ind.* i. p. 211 (1863); *Blyth, Ibis*, 1866, p. 345; *Beavan, Ibis*, 1869, p. 407; *Gray, Hand-l. B.* i. p. 98, no. 1196 (1869); *Blanf. Ibis*, 1870, p. 465; *Blyth, Ibis*, 1872, p. 89; *Hume, Nests & Eggs Ind. B.* p. 103 (1873); *id. Str. F.* ii. p. 469 (1874); *Blyth & Wald. B. Burm.* p. 73 (1875); *Hume, Str. F.* v. p. 18 (1877); *Fairb. t. c.* p. 394; *Hume & Davis. Str. F.* vi. p. 68 (1878); *Ball, Str. F.* vii. p. 203 (1878); *Anders. Rep. Zool. Exped. Yun-nan*, p. 383 (1878); *Hume, Str. F.* viii. p. 85 (1879); *Tiraut, Bull. Comm. Agric. Cochin China*, (3) i. p. 98 (1879); *Butler, Cat. B. S. Bomb. Pres.* p. 18 (1880); *Bingham, Str. F.* ix. p. 153 (1880); *Oates, Handb. B. Br. Burm.* ii. p. 63 (1883); *Davison, Str. F.* x. p. 351 (1883); *Dresser, Monogr. Merop.* p. 7, pl. 3 (1884); *Macgr. Str. F.* x. p. 436 (1887); *Hume, Str. F.* xi. p. 42 (1888); *Oates, ed. Hume's Nests & Eggs Ind. B.* iii. p. 58 (1890).

Bucia nipalensis, *Hodgs. J. A. S. Beng.* v. p. 361 (1836).

Nyctiornis cæruleus, *Swains. Classif. B.* ii. p. 333 (1837).

Nyctiornis amherstiana, *Royle, Himal. Bot.* i. p. 76 (1839).

Alcemerops paleazureus, *Less. Rev. Zool.* 1840, p. 262.

Merops cyanogularis, *Jerd. Madr. Journ.* xi. p. 229 (1840).

Bucia athertoni, *Hodgs. J. A. S. Beng.* x. p. 29 (1841); *Blyth, op. cit.* xi. p. 104 (1842).

Napophila meropura, *Hodgs. Icon. ined., Passeres*, pls. 24, 25 (no. 201); *id. in Gray's Zool. Misc.* p. 82 (1844).

Napophila nipalensis, *Hodgs. in Gray's Zool. Misc.* p. 82 (1844).

Alcemerops athertoni, *Blyth, Cat. B. Mus. As. Soc.* p. 52 (1849).

Merops athertoni, *Schl. Mus Pays-Bas*, Merops, p. 14 (1863).

Adult male. Pale grass-green, including the wings and tail, the latter ochreous yellow underneath, but not having the broad terminal bar of *N. amicta*; forehead and vertex verditer-blue; sides of face, cheeks, and sides of neck green like the back; long throat-feathers pale blue, the lower ones with darker blue bases and light blue tips; remainder of under surface ochreous buff, the abdomen broadly streaked with green centres to the feathers, the under tail-coverts slightly washed with green; under wing-coverts and axillaries ochreous buff, as well as the quill-lining: "bill horny, lighter at the base below; legs fleshy brown, tinged with green; claws horn-coloured; iris brown" (*E. W. Oates*). Total length 13 inches, culmen 1·85, wing 5·9, tail 5·3, tarsus 0·6.

Adult female. Similar to the male but somewhat smaller: "bill light horny, pale at gape and base of lower mandible; legs and feet pale greenish; iris yellowish brown" (*C. T. Bingham*). Total length 11·5 inches, culmen 1·9, wing 5·21, tail 4·8, tarsus 0·6.

Hab. Southern and Central India. Himalayas from the Dhoon to Assam, south to Tenasserim, and east to Siam and Cambodia.

a. Ad. sk.	Travancore.	India Museum.
b. ♂ ad.; *c*, *d.* ♀ ad. sk.	Kullar, Nilghiris, Oct.	Hume Coll.
e. ♂ ad. sk.	Seegore, Nilghiris, June.	Hume Coll.
f, *g.* ♂ ♀ ad. sk.	Sumbalpur, Jan.	Hume Coll.
h. Ad. sk.	Behar.	Hodgson Coll.
i. ♀ ad. sk.	Siwalik Hills, March (*Dr. Scott*).	Tweeddale Coll.
k, *l.* ♂ ad. sk.	Dehra Dhoon, Dec.	Hume Coll.
m. Ad. sk.	Dehra Dhoon.	Tweeddale Coll.
n. ♂ ad. sk.	Kalsi, Feb.	Hume Coll.
o, *p*. *q.* Ad. sk.	Masuri.	Hume Coll.
r, *s*, *t.* Ad. sk.	Niani Tal.	Pinwill Coll.
u. Ad. sk.	Pilibheet.	Hume Coll.
v–*b'*. Ad.; *c'*. Juv. sk.	Nepal.	Hodgson Coll. (Types of *N. meropura*.)
d'. Ad. sk.	Nepal (*B. H. Hodgson*).	India Museum.
e'–*i'*. Ad. sk.	Native Sikhim, March, July, Aug., Oct. (*L. Mandelli*).	Hume Coll.
k'–*p'*. Ad. sk.	Sikhim, Feb., Oct., Nov. (*L. Mandelli*).	Hume Coll.
q'. Ad. sk.	Asaam (*A. W. Chennell*).	Tweeddale Coll.
r', *s'*. ♂ ♀ ad. sk.	N. Khasia Hills, Jan. (*A. W. C.*).	Tweeddale Coll.
t', *u'*. ♂ ♀ ad. sk.	Dibrughur, May, June (*J. R. Cripps*).	Hume Coll.
v'. Ad. sk.	Cachar.	Hume Coll.
w'. ♂ ad. sk.	Tipperah Hills, Jan.	Hume Coll.
x'. Ad. sk.	Bhamo, Feb.	Dr. J. Anderson [C.].
y'–*b''*. Ad. sk.	Karen Hills, Sept., Oct., Nov. (*R. G. W. R.*).	Tweeddale Coll.
c''. ♂ ad.; *d''*, *e''*. ♀ ad. sk.	Tonghoo, Oct., Nov. (*R. G. W. R.*).	Tweeddale Coll.
f''. Ad. sk.	Burmah.	Tweeddale Coll.
g'', *h''*. ♀ ad. sk.	Aracan Hills, Jan.	Oates Coll.
i'', *k''*. Ad. sk.	Bassein, Pegu.	W. T. Blanford, Esq. [P.].

l'. Ad. sk.	Petchapury, Siam, Aug.	M. E. Pierre [P.].
m''. ♂ ad. sk.	Pahpoon, Jan. (*W. Davison*).	Hume Coll.
n''. ♂ ad. sk.	Khayin, March (*W. Davison*).	Hume Coll.
o''. ♂ ad. sk.	Toungsha Gyne River, March (*W. Davison*).	Hume Coll.
p''. ♂ ad. sk.	Kanee, Houngthraw R. (*W. Davison*).	Hume Coll.
q''. ♂ ad. sk.	Thoungyeen River, Sept. (*C. T. Bingham*).	Hume Coll.
r''. ♀ ad. sk.	Kaukaryit, March.	Major Bingham [P.].
s'', *t''*. ♀ ad. sk.	Thatone, Feb. (*W. Davison*).	Hume Coll.
u'', *v''*. ♂ ad.; *w''*. ♀ ad. sk.	Amherst, Dec. (*W. Davison*).	Hume Coll.
x''. ♀ ad. sk.	Attaran R., Dec. (*W. Davison*).	Hume Coll.
y''. ♂ ad. sk.	Moulmein, Oct. (*R. C. Beavan*).	Tweeddale Coll.
z''. Ad. sk.	Cambodia.	M. Mouhot [C.].

2. Nyctiornis amicta.

Merops amictus, *Temm. Pl. Col.* iv. pl. 310 (1824); *Schl. Mus. Pays-Bas*, Merops, p. 13 (1863).

Nyctiornis amicta, *Swains. Zool. Illustr.* 2nd ser. ii., text to pl. 56 (1831); *Gray, Gen. B.* i. p. 87 (1846); *id. List Fissir. Brit. Mus.* p. 73 (1848); *Bp. Consp.* i. p. 164 (1850); *Gould, B. Asia*, i. pl. 38 (1850); *Reichenb. Handb., Merop.* p. 80, Taf. 453. figs. 3260–61 (1852); *Moore, P. Z. S.* 1854, p. 264; *Horsf. & Moore, Cat. B. Mus. E. I. Co.* i. p. 383 (1854); *Bp. Consp. Volucr. Anis.* p. 8 (1854); *Cab. & Heine, Mus. Hein.* Th. ii. p. 133 (1860); *Jerd. B. India*, i. p. 212 (1862); *Scl. P. Z. S.* 1863, p. 214; *Blyth, Ibis*, 1866, p. 345; *Gray, Hand-l. B.* i. p. 98, no. 1194 (1869); *Salvad. Ucc. Born.* p. 91 (1874); *Blyth & Wald. B. Burm.* p. 73 (1875); *Sharpe, Ibis*, 1877, p. 6; *Tweedd. t. c.* p. 298; *Hume & Davis. Str. F.* vi. pp. 69, 498 (1878); *Sharpe, Ibis*, 1879, p. 248; *Hume, Str. F.* viii. pp. 48, 85 (1879); *Bingham, t. c.* p. 193; *id. Str. F.* ix. p. 153 (1880); *Kelham, Ibis*, 1881, p. 378; *Sharpe, P. Z. S.* 1881, p. 793; *Nichols. Ibis*, 1882, p. 56, 1883, p. 87; *Oates, Handb. B. Br. Burm.* ii. p. 64 (1883); *Dresser, Monogr. Merop.* p. 3, pls. 1, 2 (1884); *Guillem. P. Z. S.* 1885, p. 407; *Sharpe, P. Z. S.* 1887, p. 442; *Vorderm. Nat. Tijdschr. Nederl. Ind.* xlvi. p. 227 (1887); *Sharpe, Ibis*, 1890, pp. 18, 483.

Nyctinomus amictus, *Swains. Zool. Illustr.* 2nd ser. pl. 56.

Alcemerops amictus, *Hartl. Verz. Mus. Brem.* p. 15 (1844); *Blyth, Cat. Mus. As. Soc.* p. 52 (1849).

Nyctiornis malaccensis, *Cab. & Heine, Mus. Hein.* Th. ii. p. 133 (1860); *Gray, Hand-l. B.* i. p. 98, no. 1195 (1869); *Hume, Str. F.* ii. p. 469 (1874).

Adult male. General colour above and below grass-green; forehead and vertex lilac, extending to the centre of the crown; lores, fore part of cheeks, throat, and centre of fore neck scarlet-vermilion; at the base of the forehead, on the fore part of the cheeks, and again on the chin is a small spot of verditer-blue, and the scarlet of the cheeks is tinged with lilac posteriorly; the hinder cheeks, ear-coverts, and sides of neck grass-green like the back; the feathers of the throat long and pointed, those of the fore neck centred with dark green; the abdomen paler than the rest of

the under surface, being whitish, washed with green; wings and tail green like the back, the primaries a little darker green externally; underneath, the tail is for the most part yellow, including the shafts of the feathers, which have a black external border and a broad black band at the end; axillaries and under wing-coverts ochreous buff; quills dusky below, ochreous on the inner web: "bill dark horny, somewhat whitish at the base below; legs and feet plumbeous green; iris tawny" (*C. T. Bingham*). Total length 12·5 inches, culmen 2·3, wing 5·1, tail 4·6, tarsus 0·55.

Adult female. Similar to the male but smaller, and distinguished by the scarlet of the sides of the face extending across the forehead, being succeeded by a band of lilac across the crown: "bill black, the lower mandible from the angle of genys to the base fleshy; legs and feet pale bluish green; eyelids dark grey; iris orange" (*C. T. B.*). Total length 11·5 inches, culmen 1·8, wing 4·9, tail 4·5, tarsus 0·55.

Young male. Entirely green, with no scarlet or lilac on the head and breast; the lower abdomen and under tail-coverts ochreous buff; wings and tail as in the adult, but the ochreous yellow of the underside of the tail-feathers neither so well-defined nor so bright; the long chest-feathers with darker green centres, not so pronounced as in the adult.

Young female. Lighter green than the male, the feathers of the throat and chest with ochre-yellow margins, the abdomen ochre-yellow.

Hab. From Southern Tenasserim down the Malayan Peninsula to Sumatra and Borneo.

a, *b*. ♂ ♀ ad. sk.	Thoungyah, Tenasserim, Jan., Oct. (*W. Davison*).	Hume Coll.
c. ♂ ad. sk.	Thoungyeen Valley, Nov. (*C. T. Bingham*).	Hume Coll.
d. ♂ ad. sk.	Myawadee, Jan. (*W. D.*).	Hume Coll.
e. ♀ ad. sk.	South of Ye, April (*W. D.*)	Hume Coll.
f. ♀ ad. sk.	Foot of Nwalabo, April (*J. Darling*).	Hume Coll.
g. ♂ ad. sk.	Palaw-ton-ton, Dec. (*W. Davison*).	Hume Coll.
h. ♂ ad. sk.	Pakchan, Jan. (*W. Davison*).	Hume Coll.
i–*r*. ♂ ad.; *s*–*a'*. ♀ ad. sk.	Bankasoon, March, April, May (*W. Davison*).	Hume Coll.
b', *c'*. ♂ ad. sk.	Malewoon, Dec., Jan. (*J. Darling*).	Hume Coll.
d'. Ad. sk.	Penang.	Gould Coll.
e'. Ad. sk.	Penang (*Dr. Cantor*).	India Museum.
f'. ♂ ad. sk.	Wellesley Province, Dec. (*W. Davison*).	Hume Coll.
g'. ♀ ad. sk.	Perak Mountains.	L. Wray, Esq. [P.].
h', *i'*, *k'*. ♂ ad.; *l'*, *m'*. ♀ ad. sk.	Klang, Salangore, Feb., March, Nov. (*W. Davison*).	Hume Coll.
n', *o'*, *p'*. Ad.; *q'*–*t'*. Imm. sk.	Malacca, July, Aug. (*W. D.*).	Hume Coll.
u'. ♂ ad. sk.	Malacca (*A. R. Wallace*).	Gould Coll.

v'. Ad. sk.	Malacca (*Dr. Cantor*).	India Museum.
w', *x'*. Ad.; *y'*. Imm. sk.	Malacca (*R. G. W. R.*).	Tweeddale Coll.
z'. ♂ ad. sk.	Kuroo, Malacca, Nov. (*W. Davison*).	Hume Coll.
a''. ♀ ad. sk.	Gunnong Pulai, Johore, Sept. (*W. Davison*).	Hume Coll.
b''–g''. Ad. et imm. sk.	Sumatra, Sept., Oct. (*Carl Bock*).	Tweeddale Coll.
h'', *i''*. Ad. sk.	Sumatra.	Wallace Coll.
k'', *l''*. Ad. et imm. sk.	Lampong, S.E. Sumatra (*E. Buxton*).	Tweeddale Coll.
m'', *n''*. Ad. sk.	Borneo.	Rajah Brooke [P.].
o''. ♂ ad. sk.	Busan, Sarawak (*A. H. Everett*).	Salvin-Godman Coll.
p''. ♀ ad. sk.	Bellidah, Jan. (*A. H. Everett*).	Tweeddale Coll.
q''. Imm. sk.	Tagora, May (*A. H. Everett*).	A. H. Everett, Esq. [C.].
r''. Ad. sk.	Labuan.	Sir Hugh Low [C.].

Suborder HALCYONES.

Hallux connected with the *flexor perforans digitorum*, and not with the *flexor longus hallucis*.

Palate desmognathous: basipterygoid processes absent.

Spinal feather-tract well defined on neck and not forked on the back; ventral feather-tract not only split in the centre but also on each side of the breast by bare tracts.

Oil-gland tufted.

No aftershaft to the contour-feathers of the body.

Tail-feathers generally 12, rarely 10.

Egg white.

Young hatched naked and helpless.

Range. Over the whole of both hemispheres.

(*Cfr.* Seebohm, Classific. Birds, p. 20.)

Synopsis of the Families.

a. Feet anisodactyle.
- *a'.* Bill not serrated: cæca none..... 1. **Alcedinidæ**, p. 93.
- *b'.* Bill serrated: cæca none ..... 2. **Momotidæ**, p. 313.
- *c'.* Bill not serrated: cæca present.... 3. **Todidæ**, p. 333.

b. Feet pamprodactylous: all four toes directed forwards..... 4. **Coliidæ**, p. 338.

Family ALCEDINIDÆ.

(By R. B. SHARPE.)

Bill generally long, with rounded or slightly flattened culmen: genys always abruptly ascending towards the tip of the mandible.

Toes anisodactyle, the soles much flattened, and the fourth toe united to the third for more than half its length, the second toe united to the third for its basal third.

Sternum with two notches.

Cæca none. Accessory semitendinosus muscle absent.

Range. Over the whole world. No species of *Daceloninæ* are found in America, which possesses only members of the genus *Ceryle*.

Key to the Subfamilies.

a. Bill long and slender, compressed, and perceptibly keeled. Habits mainly piscivorous..... *ALCEDININÆ*, p. 96.

b. Bill more or less depressed; culmen rounded or flattened, sometimes even grooved. Habits mainly insectivorous or reptilivorous ..... *DACELONINÆ*, p. 173.

Subfamily I. ALCEDININÆ.

Key to the Genera.

a. Tail longer than bill.
  a'. Base of culmen flattened and slightly ridged; back bright cobalt, contrasting with mantle: sexes alike ..... 1. PELARGOPSIS, p. 96.
  b'. Base of culmen rounded or only slightly flattened; colours black and white, grey or green, but without any bright blue on the back: sexes different .... 2. CERYLE, p. 107.
b. Bill longer than tail, the latter conspicuously abbreviated.
  c'. Toes four.
    a''. Head crested, but only to a slight degree ..... 3. ALCEDO, p. 140.
    b''. Head with a very large crest, the feathers of the fore part of the crown elongated beyond the occiput .... 4. CORYTHORNIS, p. 162.
  d'. Toes three ..... 5. ALCYONE, p. 167.

Subfamily II. DACELONINÆ.

Key to the Genera.

a. Tail very short, much less than length of bill.
  a'. Toes three ..... 6. CEYX, p. 173.
  b'. Toes four.
    a''. Hallux longer than inner toe ..... 7. CEYCOPSIS, p. 190.
    b''. Hallux equal to inner toe.
      a'''. Tarsus shorter than hallux; bill not so depressed ..... 8. ISPIDINA, p. 190.
      b'''. Tarsus longer than hallux; bill very flat ..... 9. MYIOCEYX, p. 195.
b. Tail long, exceeding length of bill, sometimes equal to or exceeding length of wing.
  c''. Tail rounded or graduated; rectrices 12.
    c'''. Tarsus shorter than middle toe without claw.
      a⁴. Tomia serrated ..... 10. SYMA, p. 196.
      b⁴. Tomia not serrated.
        a⁵. Scapulars long, equalling the secondaries in length.
          a⁶. Culmen rounded; tip of bill not hooked ..... 11. CARCINEUTES, p. 198.
          b⁶. Culmen grooved; tip of bill hooked ..... 12. MELIDORA, p. 201.

b^5. Scapulars shorter, not equalling the secondaries in length.
c^6. Outer tail-feathers shorter than the rest, but not falling short of tip of tail by much more than length of tarsus.
a^7. No keel to the genys; angle of rami of jaw obtusely rounded; bill bluntly rounded at tip; nasal opening a linear slit situated well in front of nostrils ..... 13. CLYTOCEYX, p. 203.
b^7. Genys more or less distinctly carinated; angle of rami of lower jaw rather pointed; nasal opening oval, with the nasal plumes impinging on it.
a^8. Wing rather pointed, the primaries much longer than the secondaries; sexes different; culmen ascending towards the end of upper mandible .... 14. DACELO, p. 204.
b^8. Wing more rounded; secondaries nearly equal in length to the primaries.
a^9. With no indication of a groove along the sides of the culmen ..... 15. SAUROMARPTIS, [p. 209.
b^9. With a more or less distinct groove along the sides of the culmen.
a^{10}. Bill compressed . 16. HALCYON, p. 213.
b^{10}. Bill flattened .. 17. TODIRHAMPHUS, [p. 288.
d^6. Outer tail-feathers much shorter than the rest, and falling short of the tip of the tail by more than length of bill ..... 18. CITTURA, p. 291.
d'''. Tarsus longer than middle toe .. 19. MONACHALCYON, [p. 293.
d''. Centre tail-feathers elongated, with a spatule or racket at the ends; tail-feathers 10 ..... 20. TANYSIPTERA, p. 296.

Subfamily I. ALCEDININÆ.

1. PELARGOPSIS.

Type.

Pelargopsis, *Gloger, Handb.* p. 338 (1842).
Rhamphalcyon, *Reichenb. Handb., Alced.* p. 16 (1851) P. gurial.
Hylcaon, *Reichenb. t. c.* p. 18 (1851) ..... P. melanorhyncha.

Range. Indian Peninsula and Ceylon, throughout the Burmese countries and the Indo-Malayan subregion to Java, Sumatra, Borneo, the Philippines, and Celebes.

Key to the Species.

a. Bill black ..... *melanorhyncha*, p. 97.
b. Bill red.
  a'. Scapulars brown ..... *amauroptera*, p. 97.
  b'. Scapulars green or blue.
    a''. Crown of head not capped, generally like the hind neck, which is deep ochre (in *P. gigantea* only the head is white).
      a'''. Back and wings deep ultramarine; lower back rich cobalt.
        a^4. Throat whitish, shading into the ochraceous-buff colour of the rest of the under surface ..... *leucocephala*, p. 98.
        b^4. Throat deep ochraceous like the rest of the under surface of the body .. *intermedia*, p. 99.
      b'''. Back and wings bluish green; lower back greenish cobalt.
        c^4. Head, neck, and underparts rich deep ochre ..... *gouldi*, p. 100.
        d^4. Head whitish; hind neck and underparts pale ochreous buff ..... *gigantea*, p. 100.
    b''. Crown of head with a distinct cap, contrasting with the ochreous hind neck.
      c'''. Cap dark brown.
        e^4. Back green, wings greenish blue; crown not washed with green or blue; back greenish cobalt ..... *gurial*, p. 101.
        f^4. Wings deep blue; back only slightly greener.
          a^5. Head very slightly washed with greenish blue; hind neck and underparts deep ochreous ..... *malaccensis*, p. 103.
          b^5. Head strongly washed with green as well as the sides of the face; hind neck and underparts pale ochreous ..... *floresiana*, p. 103.
      d'''. Cap light ashy cinereous or ochreous grey.
        g^4. Back and wings greenish blue..... *burmanica*, p. 104.
        h^4. Back and wings deep blue ..... *fraseri*, p. 106.

1. Pelargopsis melanorhyncha.

Alcedo melanorhyncha, *Temm. Pl. Col.* iv. pl. 391 (1826); *Schl. Mus. Pays-Bas.*, Alced. p. 15 (1863); *id. Vog. Nederl. Ind.* pp. 10, 47, pl. 2. fig. 1 (1864); *id. Mus. Pays-Bas*, Alced., *Revue*, p. 8 (1874).

Halcyon melanorhyncha, *Gray, Gen. B.* i. p. 79 (1846); *Bp. Consp.* i. p. 155 (1850); *Cass. Cat. Halc. Philad. Mus.* p. 10 (1852); *Wall. Ibis*, 1860, p. 142; *id. P. Z. S.* 1862, pp. 335, 338; *Gray, Hand-l. B.* i. p. 92, no. 1102 (1869); *Pelz. u. Lorenz, Ann. k. Nat. Hofm. Wien*, i. p. 258 (1883).

Hylcaon melanorhyncha, *Reichenb. Handb., Alced.* p. 18, Taf. 399. fig. 3074 (1851).

Rhamphalcyon melanorhyncha, *Bp. Consp. Volucr. Anis.* p. 10 (1854).

Pelargopsis melanorhyncha, *Sharpe, P. Z. S.* 1870, p. 62; *id. Monogr. Alced.* p. 95, pl. 29 (1870); *Walden, Tr. Z. S.* viii. p. 45 (1872); *Meyer, Ibis*, 1879, p. 64; *Guillem. P. Z. S.* 1885, p. 547; *Blasius, Zeitschr. ges. Orn.* iii. p. 92 (1886).

Adult. Entire body cream-colour, a little deeper on the throat and approaching to pale orange on the abdomen and under tail-coverts; forehead dusky grey, the base of a few feathers on the crown also slightly showing this colour; cheeks and ear-coverts more decided dusky grey, the feathers narrowly edged or washed with cream-colour; middle of the back, scapularies, and wing-coverts brownish, washed with dull green, the latter narrowly edged with cream-colour at the tip; quills dark brown, the inner web white at the base, the basal half of the outer web of the primaries and the whole of the outer web of the secondaries dusky green; tail dusky green above, dark brown beneath; "bill black; feet and claws reddish brown; iris yellowish brown" (*A. B. Meyer*). Total length 14 inches, culmen 3·3, wing 5·9, tail 3·7, tarsus 0·45.

Hab. Celebes and the Sula and Togian Islands.

a. ♂ ad. sk.	Menado, Celebes.	Wallace Coll.
b, c. ♂ ad. sk.	Menado (*A. R. Wallace*).	Gould Coll.
d, e. ♂ ad. sk.	Menado (*Sharpe Coll.*).	Tweeddale Coll.
f, g. ♂ ad. sk.	Sula Islands.	Wallace Coll.
h. ♀ ad. sk.	Togian Islands (*A. B. Meyer*).	Tweeddale Coll.

2. Pelargopsis amauroptera.

Halcyon amauroptera, *Pears. J. A. S. Beng.* x. p. 635 (1841); *Blyth, Ann. & Mag. Nat. Hist.* xii. p. 94 (1843); *Gray, Gen. B.* i. p. 79 (1846); *Blyth, Cat. B. Mus. As. Soc.* p. 313 (1849); *Bp. Consp.* i. p. 155 (1850); *Cass. Cat. Halc. Philad. Mus.* p. 10 (1852); *Horsf. & Moore, Cat. B. Mus. E.I. Co.* i. p. 124 (1854); *Jerd. B. Ind.* i. p. 224 (1862); *Blyth, Ibis*, 1866, p. 347; *Gray, Hand-l. B.* i. p. 92, no. 1105 (1869); *Blanf. Ibis*, 1870, p. 465; *Cripps, Str. F.* vii. p. 260 (1879).

Rhamphalcyon amauroptera, *Reichenb. Handb., Alced.* p. 17, Taf. 398 B. fig. 3407 (1851); *Bp, Consp. Volucr. Anis.* p. 12 (1854).

Pelargopsis amauroptera, *Cab. & Heine, Mus. Hein.* Th. ii. p. 157 (1860); *Sharpe, P. Z. S.* 1870, p. 63; *id. Monogr. Alced.* p. 97,

pl. 30 (1870); *Hume, Str. F.* iii. p. 324 (1875); *Blyth & Wald. B. Burm.* p. 70 (1875); *Armstr. Str. F.* iv. p. 305 (1876); *Hume & Davison, Str. F.* vi. p. 73 (1878); *Hume, Str. F.* viii. pp. 49, 85 (1879); *Oates, Str. F.* x. p. 187 (1882); *id. Handb. B. Brit. Burm.* ii. p. 78 (1883).

Alcedo leucocephala, pt., *Schl. Mus. Pay-Bas*, Alced. p. 13 (1863).

? Alcedo amauroptera, *Schl. op. cit.*, *Revue*, p. 8 (1874).

Adult male. Entire head, neck, and under surface of body yellowish cinnamon or deep ochre; back, scapulars, and wing-coverts chocolate-brown; entire back and rump silvery cobalt; quills chocolate-brown, light cinnamon along the inner web; upper tail-coverts and tail chocolate-brown: "bill crimson; legs scarlet; iris dark brown: eyelids brick-red" (*J. R. Cripps*). Total length 13 inches, culmen 3, wing 5·8, tail 4, tarsus 0·5.

Adult female. Similar to the male in colour. Total length 13 inches, culmen 3·4, wing 5·6, tail 3·4, tarsus 0·6.

Young. Only differs from the adults in having dusky margins to the ochreous feathers.

Hab. Eastern Bengal to Arakan, Burmah, and Tenasserim, as far as the Tonka district of the Upper Malay Peninsula.

a. Ad. sk.	Bengal (*E. Blyth*).	India Museum.
b–h. Ad. et imm. sk.	Near Calcutta, July, Nov., Dec.	Hume Coll.
i. Ad. sk.	Near Calcutta, Oct. 30.	Tweeddale Coll.
k. ♂ ad. sk.	Faridpur, May 19 (*J. R. Cripps*).	Hume Coll.
l, m. ♂ ad. sk.	Arakan Hills, Jan. (*E. W. Oates*).	Hume Coll.
n. ♀ ad. sk.	Yaytho, Burmah, June (*R.G. W.R.*).	Tweeddale Coll.
o. ♂ ad. sk.	Desertas Creek, Jan. (*J. Armstrong*).	Hume Coll.
p. ♂ ad. sk.	Waughran Creek, Feb. (*J. A.*).	Hume Coll.
q. Ad. sk.	Salt Water Creek, Irawady Delta.	W. T. Blanford, Esq. [P.].
r. ♂ ad. sk.	Laynah Creek, Tenasserim, May (*W. Davison*).	Hume Coll.
s. ♀ ad. sk.	Amherst, March (*J. Armstrong*).	Hume Coll.
t, u. ♂ imm. sk.	Mergui, Nov., Dec. (*W. D.*).	Hume Coll.
v. ♂ ad. sk.	Malawoon, March (*A. L. Hough*).	Hume Coll.
w. Imm. st.	Tenasserim (*Helfer*).	India Museum.
x. ♂ ad. sk.	Kopah River, Jan. (*W. D.*)	Hume Coll.
y. ♂ ad. sk.	Kossoum, April (*J. Darling*).	Hume Coll.

3. Pelargopsis leucocephala *.

Martin-Pêcheur de Java, *Daubent. Pl. Enl.* viii. pl. 757.

Le Martin-pêcheur à tête et cou couleur de paille, *Buff. Hist. Nat. Ois.* vii. p. 190 (1780).

White-headed Kingfisher, *Lath. Gen. Syn.* i. pt. 2, p. 617 (1782).

Alcedo javana, *Bodd. Tabl. Pl. Enl.* p. 47 (1783).

Alcedo leucocephala, *Gm. Syst. Nat.* i. p. 456 (1788); *Shaw & Nodd. Nat. Misc.* xix. pl. 793 (1807); *Schl. Mus. Pays-Bas*, Alced.

* The earliest name for this species is undoubtedly *Alcedo javana* of Boddaert, but as the species does not inhabit Java, I have dropped Boddaert's name as being misleading

p. 13 (1863, pt.); *id. Voy. Nederl. Ind.*, Alced. pl. 2, right-hand upper figure (1864); *Walden, P. Z. S.* 1866, p. 553; *Schl. Mus. Pays-Bas*, Alced., *Revue*, p. 7 (1874).

Alcedo javanica, *Shaw, Gen. Zool.* viii. p. 67 (1812).

Halcyon leucocephala, *Steph. in Shaw's Gen. Zool.* xiii. pt. 2, p. 100 (1826); *Gray, List Fissir. Brit. Mus.* p. 55 (1848, pt.); *Bp. Consp.* i. p. 154 (1850); *Horsf. & Moore, Cat. B. Mus. E.I. Co.* i. p. 123 (1854, pt.); *Sel. P. Z. S.* 1863, p. 213.

Halcyon javana, *Gray, Gen. B.* i. p. 79 (1846); *id. Hand-l. B.* i. p. 92, no. 1104 (1869).

Rhamphalcyon gurial (*nec Pears.*), *Reichenb. Handb., Alced.* Taf. 309. fig. 3075 (1851, nec descr.).

Pelargopsis leucocephala, *Sharpe, P. Z. S.* 1870, p. 64; *id. Monogr. Alced.* p. 99, pl. 31 (1870); *Walden, Ibis*, 1872, p. 368; *Salvad. Ucc. Born.* p. 95 (1874); *Sharpe, Trans. Linn. Soc.* n. s. i. p. 317 (1876); *id. Ibis*, 1876, p. 33, 1879, p. 249; *id. P. Z. S.* 1879, p. 329; *id. P. Z. S.* 1881, p. 793; *Guillem. P. Z. S.* 1885, p. 497; *Blasius, Ornis*, i. p. 156 (1885); *Everett, Journ. Straits Branch R. As. Soc.* 1889, p. 159; *Sharpe, Ibis*, 1890, pp. 19, 283.

Adult male. Head and back of neck deep ochre, the latter rather deeper in colour; upper part of the back, scapulars, and lesser wing-coverts rich blue; the median and greater coverts and the outer aspect of the primaries rich ultramarine, the inner secondaries being entirely of this colour; tail ultramarine above, black beneath; under surface of body rich deep ochre, a little lighter on the throat and sides of face: "bill and feet coral-red; iris chocolate" (*A. Everett*). Total length 13 inches, culmen 3, wing 5·8, tail 3·3, tarsus 0·45.

Hab. Borneo; ? Palawan (see footnote to p. 100).

a. Ad. sk.	Borneo.	Rajah Brooke [P.].
b. ♂ ad. sk.	Sarawak (*A. R. Wallace*).	Tweeddale Coll.
c. ♂ ad. sk.	Marup, Sarawak (*A. H. Everett*).	Tweeddale Coll.
d. ♀ ad. sk.	Bedi, Sarawak (*A. H. E.*).	Gould Coll.
e. Ad. sk.	Lawas River (*H. Burbidge*).	H. Veitch, Esq. [P.].
f. Ad. sk.	Brunei River.	Dr. Bassett-Smith [P.].

Subsp. *a.* Pelargopsis intermedia.

Pelargopsis fraseri (*nec Sharpe*), *Ball, Str. F.* i. p. 57 (1873).

Pelargopsis intermedia, *Hume, Str. F.* i. p. 449 (1873), ii. p. 166 (1874); *Sharpe, t. c.* p. 489; *Hume, Str. F.* viii. p. 85 (1879).

Adult (type of species). Similar to *P. leucocephala*, but rather larger and deeper in colour, the blue of the back richer cobalt and the tint of the ochraceous parts being deeper and continued up to the chin: "bill coral-red, darkening towards the tip; feet bright orange-vermilion: iris deep hair-brown; eyelids orange-vermilion" (*W. Davison*). Total length 13 inches, culmen 3·3, wing 5·9, tail 3·7, tarsus 0·55.

This race is scarcely distinguishable from *P. leucocephala*, but is rather deeper in colour, and lacks the whitish throat.

Hab. Nicobar Islands.

a, *b*. ♂ ad.; *c*. ♀ ad. sk.	Kondul Island, Nicobars, March (*W. Davison*).	Hume Coll. (Types of species.)
d. ♂ ad. sk.	Pulo Milu, Jan. 29 (*W. D.*)	Hume Coll.

Subsp. β. Pelargopsis gouldi.

Pelargopsis gouldi, *Sharpe*, *Ibis*, 1870, p. 63; *id. Monogr. Alced.* p. 101, pl. 32 (1870); *Blasius*, *Ibis*, 1888, p. 373; *id. Ornis*, iv. p. 307 (1888); *Everett*, *P. Z. S.* 1889, p. 225; *id. Journ. Straits Branch R. As. Soc.* 1889, p. 159.

Pelargopsis leucocephala (*nec Gm.* *), *Sharpe*, *Ibis*, 1884, p. 318 (err.); *id. Ibis*, 1888, p. 197.

Adult (type of species). Entire head and neck, as well as the whole of the under surface of the body, rich ochre; upper part of back, scapulars, wing-coverts, upper tail-coverts, and tail bluish green; quills and tail-feathers rather more blue; entire back and rump silvery cobalt. Total length 13 inches, culmen 3·2, wing 6, tail 3·5, tarsus 0·5.

Hab. Philippine Islands.

a. Ad. sk.	Manila.	Gould Coll. (Type of species.)
b. ♂ ad. sk.	Ilo Ilo, Panay.	Voy. H.M.S. 'Challenger.'
c. Ad. sk.	Palawan.	H. H. Lamprière, Esq. [P.].

Subsp. γ. Pelargopsis gigantea.

Pelargopsis gigantea, *Walden*, *Ann. & Mag. Nat. Hist.* (4) xiii. p. 123 (1874); *Meyer*, *t. c.* pp. 401, 475; *Salvad. Ucc. Born.* p. 96 (1874); *Sharpe*, *Trans. Linn. Soc.* n. s. i. p. 317 (1876); *Tweedd. P. Z. S.* 1877, pp. 541, 822, 1878, pp. 108, 341, 943, 1879, p. 69; *id. Rep. Exped. 'Challenger,'* ii. *Birds*, p. 12 (1881); *Guillem. P. Z. S.* 1885, p. 266.

Adult male. General colour above bluish green, the quills and tail rather more blue; entire back and rump silvery cobalt; head whitish; hinder neck and under surface of body pale ochreous buff, lighter on the throat, and deeper in tint towards the under tail-coverts: "soft parts as in *P. leucocephala*" (*A. Everett*). Total length 13 inches, culmen 3·3, wing 6, tail 3·5, tarsus 0·6.

Hab. Philippine Islands.

a. ♀ ad.; *b*. ♂ juv. sk.	Amparo, S. Leyte, Aug. (*A. H. Everett*).	Tweeddale Coll.
c. ♀ ad. sk.	Malanipa.	Voy. H.M.S. 'Challenger.'
d. ♀ ad. sk.	Dinagat Island, June (*A. H. E.*).	Tweeddale Coll.
e. ♂ ad. sk.	Butuan, N. Mindanao, May (*A. H. E.*).	Tweeddale Coll.

* I have also recorded a *Pelargopsis* from Palawan (Tr. Linn. Soc. new ser. i. p. 317) which I called *P. leucocephala*, and expressly stated that it was *not P. gouldi*. Perhaps both races are found in Palawan.

f. ♂ ad. sk.	Zamboanga.	Voy. H.M.S. 'Challenger.'
g, h. ♂ ♀ ad. sk.	Zamboanga, March, May (*A. H. E.*).	Tweeddale Coll.
i. Ad. sk.	Sulu Islands, Jan. (*H. Burbidge*).	H. Veitch, Esq. [P.].
k. Ad. sk.	Salok Solo, Sulu Islands (*A. B. Meyer*).	Tweeddale Coll. (Type of species.)

4. Pelargopsis gurial.

Halcyon leucocephala (*nec Gm.*), *McClell. P. Z. S.* 1839, p. 156; *Gray, List Fissir. Brit. Mus.* p. 55 (1848, pt.); *Horsf. & Moore, Cat. B. Mus. E.I. Co.* i. p. 123 (1854, pt.); *Jerd. B. Ind.* i. p. 222 (1862); *Beavan, Ibis*, 1865, p. 407; *Blyth, Ibis*, 1866, p. 347.

Halcyon capensis (*nec L.*), *Jerd. Madr. Journ.* xi. p. 231 (1840); *Blyth, Ann. & Mag. Nat. Hist.* xii. p. 94 (1843); *Gray, Cat. Mamm. etc. Nepal pres. Hodgs.* p. 56 (1846); *Gray, Hand-l. B.* i. p. 92, no. 1103 (1869).

Halcyon gurial, *Pears. J. A. S. Beng.* x. p. 633 (1841); *Blyth, Cat. B. Mus. As. Soc.* p. 47 (1849); *Bp. Consp.* i. p. 155 (1850); *Irby, Ibis*, 1861, p. 228; *Blyth, Ibis*, 1866, p. 30.

Alcyon capensis vel princeps, *Hodgs. Icon. ined. in Brit. Mus., Passeres*, pl. 15. fig. 1 (no. 221); *id. in Gray's Zool. Misc.* p. 82 (1844).

Halcyon brunniceps, *Jerd. Madr. Journ.* xiii. p. 143 (1844).

Rhamphalcyon gurial, *Reichenb. Handb., Alced.* p. 16, Taf. 426. fig. 3158 (1851, *nec* Taf. 399. fig. 3075).

Pelargopsis gurial, *Cab. & Heine, Mus. Hein.* Th. ii. p. 156 (1860); *Sharpe, P. Z. S.* 1870, p. 66; *id. Monogr. Alced.* p. 105, pl. 34 (1870); *Holdsw. P. Z. S.* 1872, p. 423; *Hume, Nests & Eggs Ind. B.* p. 105 (1873); *Ball, Str. F.* ii. p. 387 (1874); *Fairb. Str. F.* iv. p. 254 (1876); *Hume, Str. F.* v. p. 18 (1877); *Fairb. t. c.* p. 394; *Ball, Str. F.* vii. p. 203 (1878); *Cripps, t. c.* p. 259; *Legge, B. Ceylon*, i. p. 294 (1878); *Hume, Str. F.* viii. p. 85 (1879); *Brooks, t. c.* p. 467; *Vidal, Str. F.* ix. p. 49 (1880); *Butler, Cat. B. S. Bomb. Pres.* p. 19 (1880); *Davidson, Str. F.* x. p. 296 (1882); *Davison, t. c.* p. 351 (1883); *Swinh. & Barnes, Ibis*, 1885, p. 61; *McGregor, Str. F.* x. p. 436 (1887); *Hume, Str. F.* xi. p. 44 (1888); *Oates, ed. Hume's Nests & Eggs Ind. B.* iii. p. 11 (1890).

Alcedo leucocephala (pt.), *Schl. Mus. Pays-Bas*, Alced. p. 13 (1863); *id. Vog. Nederl. Ind.* pl. ii., left-hand lower figure (1864).

Adult male. Crown of head and nape dark chocolate-brown; sides of neck and a collar encircling the latter, pale ochre; upper portion of the back and scapulars dull green, the rest of the back rich greenish cobalt; wing-coverts dull green with a faint blue lustre; quills black, externally greenish blue like the tail; under surface of body light ochreous buff, paler on the throat. Total length 14 inches, culmen 3·1, wing 6·4, tail 3·6, tarsus 0·5.

Adult female. Similar to the male. Total length 14 inches, culmen 3·3, wing 5·8, tail 3·7, tarsus 0·6.

Young. Similar to the adults, but having dusky margins to the feathers of the hind neck and breast.

Hab. Ceylon and the Peninsula of India, excepting the North-west, ranging eastward into Assam and Manipur. Here the colour of the cap is somewhat lighter, and the birds show an approach to *P. burmanica*.

a. ♂ ad. sk.	Mussoorie.	Hume Coll.
b. Ad. sk.	Kumaun.	Hume Coll.
c, *d*. ♂ ad. sk.	Dehra Doon, Dec., Jan.	Hume Coll.
e, *f*. Ad. sk.	Oudh, Nov., Feb.	Hume Coll.
g. Ad. sk.	Oudh.	Pinwill Coll.
h. Ad. st.	Nepal.	Hodgson Coll.
i–*k*. Ad. sk.	Nepal.	Hodgson Coll.
l. Ad. sk.	Behar.	Hodgson Coll.
m–*q*. Ad. sk.	Darjiling Terai, May, Sept., Nov. (*L. Mandelli*).	Hume Coll.
r. Ad. sk.	Buxa Doars, Feb. (*L. Mandelli*).	Hume Coll.
s. Ad. sk.	Bhutan Dooars, April (*L. Mandelli*).	Hume Coll.
t. Imm. sk.	Assam (*Sharpe Coll.*).	Tweeddale Coll.
u. Imm. sk.	Assam (*Dr. Griffith*).	India Museum.
v, *w*. ♂ ad.; *x*. ♀ ad. sk.	Kamroop, Assam (*A. W. Chennell*).	Tweeddale Coll.
y, *z*. ♀ ad. sk.	Gowhatti, Assam, Dec., March (*W. D.*).	Hume Coll.
a'. ♂ imm. sk.	Dibrughur, Dec. (*J. R. Cripps*).	Hume Coll.
b'. Ad. sk.	Base of Khasia Hills (*A. W. Chennell*).	Tweeddale Coll.
c'. Ad. sk.	Cachar (*J. Inglis*).	Hume Coll.
d'. ♂ ad. sk.	Faridpur, April (*J. R. Cripps*).	Hume Coll.
e'. ♀ ad.; *f'*, *g'*. Imm. sk.	Tippera, Jan.	Hume Coll.
h', *i'*. Ad. et imm. sk.	Dacca.	Hume Coll.
k', *l'*. ♂ ad. sk.	Calcutta, Jan., Aug.	Hume Coll.
m'. ♀ ad. sk.	Calcutta, Feb. (*J. Biddulph*).	Tweeddale Coll.
n'. ♂ ad. sk.	Palamow, Feb. 28 (*V. Ball*).	Hume Coll.
o'. Ad. sk.	Depalpur, Jan.	Colonel C. Swinhoe [P.].
p'. ♂ ad.; *q'*. ♀ imm. sk.	Saugor, Jan.	Hume Coll.
r', *s'*. ♂ imm.; *t'*. ♀ ad. sk.	Sumbulpur, Feb.	Hume Coll.
u', *v'*. ♂ ♀ imm. sk.	Raipur, Dec.	Hume Coll.
w', *x'*. ♂ ♀ ad. sk.	Seoni.	Hume Coll.
y'. Ad. sk.	Jubbulpur.	Hume Coll.
z'–*c''*. Ad. sk.	Khandeish.	Tweeddale Coll.
d''. Ad. sk.	Nusseerabad, Khandeish, Dec. 25.	Major Yerbury [P.].
e''–*i''*. Ad. sk.	West Khandeish (*J. Davidson*).	Hume Coll.
k''. Ad. sk.	Khandeish, Dec. 29.	Hume Coll.
l'', *m''*. Ad. sk.	North Canara, April.	Hume Coll.
n'', *o''*. ♂ imm. sk.	South Konkan, Jan., Feb. (*J. Vidal*).	Hume Coll.
p'', *q''*. Ad. sk.	Madras.	Rev. H. H. Baber [P.].

r''. Ad. sk.	Malabar.	Gould Coll.
s''. ♂ ad. sk.	Calicut, Dec. (*R. G. W. R.*).	Tweeddale Coll.
t''. ♂ imm. sk.	Mysore, Dec. 4.	W. Davison, Esq. [P.].
u'', *v''*. Ad. sk.	Ceylon (*H. Nevill*).	Tweeddale Coll.
w'', *x''*. ♂ ♀ ad. sk.	Ceylon, Dec., April (*S. Chapman*).	Tweeddale Coll.
y'', *z''*. Ad. et imm. sk.	Ceylon, Aug., Oct.	Colonel W. V. Legge [P.].
a^3. ♂ ad. sk.	Cotta, Ceylon, Dec. (*Hart*).	Hume Coll.
b^3, c^3. Bones of trunk.	Nepal.	Hodgson Coll.

Subsp. *a*. **Pelargopsis malaccensis.**

Halcyon leucocephala (*nec Gm.*), *Moore, P. Z. S.* 1854, p. 268.
Pelargopsis malaccensis, *Sharpe, P. Z. S.* 1870, p. 67; *id. Monogr. Alced.* p. 107 (1871); *Hume, Str. F.* viii. p. 49 (1879); *Kelham, Ibis*, 1881, p. 379.

Adult female (type of species). Similar to *P. gurial*, but much smaller; the cap dark brown, washed slightly with green; the hind neck and underparts very deep ochreous. Total length 12 inches, culmen 3·2, wing 5·8, tail 2·3, tarsus 0·5.

Hab. Malayan Peninsula.

a, *b*. ♂ ad. sk.	Salang, Tonka, March, May (*J. Darling*).	Hume Coll.
c, *d*. Ad. et imm. sk.	Penang (*Dr. Cantor*).	India Museum.
e. ♀ imm. sk.	Klang, Salangore, June (*W. Davison*).	Hume Coll.
f. Ad. sk.	Malacca (*Dr. Cantor*).	India Museum.
g. Ad. sk.	Malacca.	Purchased.
h. ♂ imm. sk.	Malacca (*Sharpe Coll.*).	Tweeddale Coll.
i, *k*. Ad. et imm. sk.	Malacca, July, Aug. (*W. Davison*).	Hume Coll.
l, *m*. ♂ ♀ ad. sk.	Malacca (*A. R. Wallace*: *Sharpe Coll.*).	Tweeddale Coll. (Types of species.)
n, *o*. Ad. sk.	Malacca (*R. G. W. R. & Dr. Maingay*).	Tweeddale Coll.
p. Ad. sk.	Malacca.	Wallace Coll.
q, *r*, *s*. ♂ ♀ imm. sk.	Pulo Seban, Oct., Nov. (*W. Davison*).	Hume Coll.
t. ♂ imm. sk.	Kuroo, Nov. (*W. D.*).	Hume Coll.
u. ♂ ad. sk.	Johore, Aug. (*W. D.*).	Hume Coll.

Subsp. *β*. **Pelargopsis floresiana.**

Halcyon leucocephala (*nec Gm.*), *Wall. P. Z. S.* 1863, p. 484.
Pelargopsis floresiana, *Sharpe, P. Z. S.* 1870, p. 68; *id. Monogr. Alced.* p. 111, pl. 36 (1870).

Adult (type of species). Similar to *P. gurial*, but differing in its deeper and more ultramarine-blue colour, the deeper cobalt of the back and rump, and especially in having the crown of the head

strongly washed with green. Total length 13·5 inches, culmen 3·2, wing 5·7, tail 3·6, tarsus 0·45.

Hab. Island of Flores.

a, *b*, *c*. Ad. sk.	Flores (*A. R. Wallace*: *Sharpe Coll.*).	Tweeddale Coll (Types of species.).
d, *e*. Ad. sk.	Flores.	Wallace Coll.

Subsp. γ. **Pelargopsis burmanica.**

Rhamphalcyon capensis (*nec L.*), *Reichenb. Handb.*, *Alced.* p. 16, Taf. 399. figs. 3072–73 (1851).

Halcyon leucocephalus (*nec Gm.*), *Horsf. & Moore, Cat. B. Mus. E.I. Co.* i. p. 123 (1854, pt.); *Gould, P. Z. S.* 1859, pp. 151, 152; *Schomb. Ibis*, 1864, p. 247; *Beavan, Ibis*, 1866, p. 221, 1867, p. 318; *Wald. P. Z. S.* 1866, p. 553; *Blanf. Ibis*, 1870, p. 465; *Blyth, J. A. S. Beng.* p. 277 (1872).

Halcyon capensis (*nec L.*), *Wald. P. Z. S.* 1866, p. 315.

Pelargopsis burmanica, *Sharpe, P. Z. S.* 1870, p. 67; *id. Monogr. Alced.* p. 109, pl. 35 (1870); *Ball, Str. F.* i. p. 57 (1873); *Walden, Ibis*, 1874, p. 136; *Hume, Str. F.* ii. pp. 53, 165; *id. op. cit.* iii. p. 50 (1875); *Blyth & Wald. B. Burm.* p. 70 (1875); *Bingh. Str. F.* v. p. 83 (1877); *Hume & Davison, Str. F.* vi. p. 73 (1878); *Hume, Str. F.* viii. p. 85 (1879); *Bingh. Str. F.* ix. p. 154 (1880); *Oates, Str. F.* x. p. 187 (1882); *id. Handb. B. Br. Burm.* ii. p. 78 (1883); *Salvad. Ann. Mus. Civ. Genov.* (2) iv. p. 587 (1887); *id. op. cit.* v. p. 571 (1888); *Oates, ed. Hume's Nests & Eggs Ind. B.* iii. p. 12 (1890).

Alcedo leucocephala, pt., *Schl. Mus. Pays-Bas*, Alced. *Revue*, p. 7 (1874).

Adult (type of species). Crown of head clear albescent grey; sides of neck and a collar round the latter very deep ochre; upper part of back and scapulars dull green, with a faint blue shade here and there, the quills and tail-feathers being decidedly more blue; entire back and rump very rich cobalt; entire under surface very deep ochre: "bill dark red, brown at the tip; mouth dark salmon-red; feet a paler red than the bill; claws horn-colour; iris dark brown; eyelids pinkish fleshy, the edges red" (*E. W. Oates*). Total length 14 inches, culmen 3·4, wing 6, tail 3·8, tarsus 0·5.

The colour of the cap in *P. burmanica* varies in intensity of grey, and sometimes the specimens show an approach to the colour of *P. gurial*, while at other times they strongly resemble *P. fraseri*. Those from Pegu are especially pale, but the lightest in colour are birds from the Andamans.

Hab. Andaman Islands, Burmah, and Tenasserim, ranging into the north of the Malayan Peninsula, and eastwards into Siam and Cambodia and Cochin China.

a, *b*, *c*. ♂ ad.; *d*. ♀ ad. sk.	South Andamans, Feb., March (*R. G. W. R.*)	Tweeddale Coll.
e. Ad. sk.	Andamans, June (*R. C. Beavan*).	Tweeddale Coll.
f, *g*. ♂ ad. sk.	Andamans, Aug., Oct. (*R. J. Wimberley*).	Hume Coll.

h. ♀ ad. sk.	Macpherson's Straits, March (*A. O. H.*).	Hume Coll.
i. Ad. sk.	Tonghoo (*De Witt*).	Oates Coll.
k. Imm. sk.	Tonghoo.	Tweeddale Coll. (Type of species.)
l, m, n. Imm. sk.	Tonghoo, Feb., March (*R. G. W. R.*).	Tweeddale Coll.
o. ♀ imm. sk.	Yaytho, June (*R. G. W. R.*).	Tweeddale Coll.
p. ♂ imm. sk.	Karen-nee, March (*R. G. W. R.*).	Tweeddale Coll.
q, r. ♂ ad et imm. sk.	Aracan Hills (*E. W. O.*).	Hume Coll.
s. ♂ imm. sk.	Pegu, Dec. (*R. G. W. R.*).	Tweeddale Coll.
t. Ad. sk.	Pegu Hills, April (*E. W. Oates*).	Hume Coll.
u, v. ♂ ad. sk.	Pegu, March (*E. W. O.*).	Oates Coll.
w. Ad.; *x, y.* Imm. sk.	Rangoon, March (*E. W. O.*).	Hume Coll.
z. Imm. sk.	Mouth of Irawady River, March.	Hume Coll.
a'. ♂ imm. sk.	Kyouknyat, Tenasserim, Jan. 27 (*W. Davison*).	Hume Coll.
b', c', d'. ♂ imm. sk.	Pahpoon, Jan. (*W. D.*).	Hume Coll.
e'–i'. ♂ ad.; *k', l'.* ♀ ad. sk.	Kaukaryit, June to Sept. (*J. Darling*).	Hume Coll.
m'. ♂ ad. sk.	Younzaleen Creek, Feb. 28 (*W. D.*).	Hume Coll.
n', o', p'. ♂ ad. et imm.; *q', r'.* ♀ ad. sk.	Salween River, Jan., July (*W. D. & C. T. Bingham*).	Hume Coll.
s'. ♀ ad. sk.	Khyketo, Jan. (*W. D.*).	Hume Coll.
t'–z'. ♀ ad. et imm. sk.	Thatone, Nov., Dec., Jan. (*W. D.*).	Hume Coll.
a'', b''. ♂ ad.; *c''.* ♀ ad. et imm. sk.	Wimpong, Dec. (*W. D.*).	Hume Coll.
d''. ♀ ad. sk.	Assoon, Feb. (*W. Limborg*).	Tweeddale Coll.
e''. ♂ ad. sk.	Kanee (*W. D.*).	Hume Coll.
f'', g''. ♀ ad. sk.	Kogo, Houngthraw River, Jan. (*W. D.*).	Hume Coll.
h''. ♂ imm. sk.	Houngthraw River, Dec. (*W. Limborg*).	Tweeddale Coll.
i''. ♀ ad. sk.	Moumenzeik, March 11 (*W. D.*).	Hume Coll.
k''. ♀ imm. sk.	Pabyouk, March 13 (*W. D.*).	Hume Coll.
l''. ♀ ad. sk.	Karope, March (*W. D.*).	Hume Coll.
m''. ♂ imm. sk.	Meetan, Feb. 13 (*W. D.*).	Hume Coll.
n'', o'', p''. ♂ ad.; *q''.* ♀ imm. sk.	Amherst, Jan. July, Dec. (*W. D.*).	Hume Coll.
r'', s''. ♂ ♀ ad. sk.	Yea, April (*W. D.*).	Hume Coll.
t''. ♂ imm. sk.	Yeaboo, Dec. (*J. Darling*).	Hume Coll.
u'', v'', w''. ♀ ad. et imm. sk.	Tavoy, Nov., March, April (*W. D.*)	Hume Coll.
x''. ♀ imm. sk.	Mergui, Nov. (*W. D.*).	Hume Coll.
y'', z'', a^3. ♂ ad. et imm. sk.	Pakchan, Dec., Jan. (*W. D.*).	Hume Coll.
b^3. ♂ ad. sk.	Bankasoon, May (*W. D.*).	Hume Coll.
c^3. ♂ ad. sk.	Kossoum, Tonka, July (*J. Darling*).	Hume Coll.
d^3. ♂ imm. sk.	Salang, March (*J. D.*).	Hume Coll.
e^3. Ad. sk.	Mt. Sabab, Siam (*Mouhot*).	Gould Coll.

f^3. Ad. sk.	Meklong, Siam.	H. C. V. Hunter, Esq. [P.].
g^3. ♂ ad. sk.	Bangkok, Siam, April 4 (*Capt. Conrad*).	R. B. Sharpe, LL.D. [P.].
h^3. Ad. sk.	Saigon, Cochin China.	M. E. Pierre [P.].
i^3. Ad. sk.	Cambodia (*Mouhot*).	Tweeddale Coll.

Subsp. δ. **Pelargopsis fraseri.***

Alcedo leucocephala (*nec Gm.*), *Horsf. Trans. Linn. Soc.* xiii. p. 174 (1821); *Raffl. t. c.* p. 293; *Schl. Mus. Pays-Bas*, Alced. p. 13 (1863, pt.); *id. op. cit. Revue*, p. 7 (1874); *Vorderm. Nat. Tijdschr. Nederl. Ind.* xlii. p. 42 (1882).

Halcyon capensis (*nec L.*), *Eyton, P. Z. S.* 1839, p. 101.

Rhamphalcyon javana (*nec Bodd.*), *Reichenb. Handb., Alced.* p. 17, Taf. 398 B. fig. 3406 (1851).

Halcyon leucocephalus (*nec Gm.*), *Blyth, Cat. B. Mus. As. Soc.* p. 46 (1849); *Horsf. & Moore, Cat. B. Mus. E.I. Co.* i. p. 123 (1854, pt.).

Alcedo amauroptera (*nec Pears.*), *Schl. Voy. Nederl. Ind.*, Alced. pl. 2, central lower figure (1864).

Pelargopsis fraseri, *Sharpe, P. Z. S.* 1870, p. 65; *id. Monogr. Alced.* p. 103, pl. 33 (1871); *Tweedd. Ibis*, 1877, p. 296; *Salvad. Ann. Mus. Civ. Genov.* xiv. p. 194 (1879); *Nichols. Ibis*, 1882, p. 56, 1883, p. 243.

Pelargopsis burmanica (*nec Sharpe*), *Hume, Str. F.* viii. p. 49 (1879).

Dacelo leucocephala (*nec Gm.*), *Snellem. in Veth's Midden Sumatra*, p. 35 (1885).

Pelargopsis javana (*nec Bodd.*), *Büttik. Notes Leyden Mus.* ix. p. 37 (1887).

Pelargopsis leucocephala, *Vorderm. Nat. Tijdschr. Nederl. Ind.* xlix. p. 394 (1890).

Adult. Similar to *P. burmanica*, and with a similar ashy cap, but less distinctly pronounced; the colour of the upper surface not so distinctly green, but greenish blue: "bill dark vermilion-red,

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* I am unable to determine which species should bear the name of *Pelargopsis capensis* (Linn.), to which belongs the following synonymy:—

Le Martin-pescheur du Cap de Bonne Espérance, *Briss. Orn.* iv. p. 488 pl. 36. fig. 3 (1760).

Martin-pêcheur du Cap de Bonne Espérance, *Daubent. Pl. Enl.* viii. pl. 590.

Le Martin-pêcheur à gros bec, *Buff. Hist. Nat. Ois.* vii. p. 184 (1780).

Alcedo capensis, *Linn. Syst. Nat.* i. p. 180 (1766, *ex Briss.*); *Bodd. Tabl. Pl. Enl.* p. 36 (1783).

Cape Kingfisher, *Lath. Gen. Syst.* i. pt. 2, p. 610 (1782).

Halcyon capensis, *Swains. Classif. B.* ii. p. 335 (1837); *Gray, Gen. B.* i. p. 79 (1846); *Bp. Consp.* i. p. 154 (1850).

When I wrote my 'Monograph' I was under the impression that Brisson's figure and description best suited the Kingfisher from Flores, principally on account of its greenish head; and I referred Daubenton's plate to my *P. floresiana*. I am now of opinion that the latter figure is made up from Brisson's figure and his description combined, and that it is impossible to recognize for which species it was intended.

black at the tip; feet bright coral-red, claws darker horn-colour; eyelids coral-red; iris brownish black" (*Dr. Vorderman*). Total length 12 inches, culmen 3, wing 5·75, tail 3·5, tarsus 0·6.

Hab. Java, Sumatra, Billiton, and Borneo, as well as the Malayan Peninsula.

a. Ad. sk.	Penang (*Sharpe Coll.*).	Tweeddale Coll.
b, *c*. Ad. et imm. sk.	Malacca, Aug. (*R. G. W. R.*).	Tweeddale Coll.
d, *e*. Ad. et imm. sk.	Malacca, July (*W. Davison*).	Hume Coll.
f. ♂ ad. sk.	Pulo Nongsa, Nov. 27 (*W. Davison*).	Hume Coll.
g. Ad. sk.	Singapore, Jan. 20.	Dr. A. McKinlay [P.].
h. Ad. sk.	Sumatra.	Wallace Coll.
i. Ad. sk.	Sumatra.	Tweeddale Coll.
k. ♂ ad. sk.	Siedjounjong, Sept. (*Carl Bock*).	Tweeddale Coll.
l. Ad. sk.	Lampong (*E. C. Buxton*).	Tweeddale Coll.
m, *n*, *o*. Ad. sk.	Java (*Dr. Horsfield*).	India Museum.
p. ♂ ad. sk.	Java (*Leyden Mus.*).	Salvin-Godman Coll.
q. Ad. sk.	Java.	Gould Coll.
r. ♀ ad. sk.	E Java.	Wallace Coll.
s. Ad. sk.	Billiton.	Tweeddale Coll.
t. Ad.; *u*. Juv. sk.	Borneo.	Rajah Brooke [P.].
v. Ad. sk.	Labuan (*J. Motley*: *Sharpe Coll.*).	Tweeddale Coll.

2. CERYLE.

	Type.
Ceryle, *Boie, Isis*, 1828, p. 316	C. rudis.
Ispida, *Swains. Classif. B.* ii. p. 326 (1837)	C. alcyon.
Megaceryle, *Kaup, Fam. Eisv.* p. 8 (1848).....	C. guttata.
Chloroceryle, *Kaup, t. c.* p. 8 (1848)	C. superciliosa.
Amazonis, *Reichb. Handb., Alced.* p. 28 (1851).....	C. superciliosa.
Streptoceryle, *Bp. Consp. Volucr. Anis.* p. 10 (1854).	C. torquata.
Ichthynomus, *Cab. & Heine, Mus. Hein.* Th. ii. p. 150 (1860)	C. maxima.

Range. The countries of the Mediterranean; the whole of the Ethiopian and Indian regions, extending through China to Japan. The whole of the New World.

Key to the Species.

A. Without any green in the plumage, which is black and white or grey.
  a. Upper surface black and white, or greyish black and white (not slaty grey), barred across with black.
    a'. Size smaller; tail with white base.
      a''. With a double black band across the breast.

a'''. White base of tail with black spots; no black spots on throat; flanks streaked with black ..... *rudis* ♂, p. 109.

b'''. No black spots on white base of tail; throat spotted with black; flanks with round spots of black..... *varia* ♂, p. 112.

b''. With no second pectoral band of black; sides of upper breast with a black patch not forming a pectoral band.

c'''. Base of tail white, with black spots.. *rudis* ♀, p. 109.

d'''. Base of tail white, without black spots ..... *varia* ♀, p. 112.

b'. Size larger; tail black, barred with white, but not having a white base.

c''. Under wing-coverts and axillaries white, with a few spots of blackish..... *lugubris* ♂, p. 115.

d''. Under wing-coverts and axillaries pale rufous ..... *lugubris* ♀, p. 115.

b. Upper surface light or dark slaty grey or slaty blue.

c'. With a pectoral band of rufous; abdomen and under tail-coverts white, spotted with black.

e''. Back dark slaty grey, plentifully spotted with white ..... *maxima* ♂, p. 118.

f''. Back dark slaty grey, almost uniform, not spotted with white ..... *sharpii* ♂, p. 120.

d'. Breast and abdomen chestnut.

g''. Fore neck spotted with black, forming a band, which is separated from the chestnut abdomen by a band of white; under tail-coverts chestnut ..... *maxima* ♀, p. 118. / *sharpii* ♀, p. 120.

h''. No black on fore neck.

e'''. A broad band of slaty blue across the fore neck, succeeded by a white band; under tail-coverts chestnut ..... *torquata* ♀, p. 121. / *stellata* ♀, p. 123.

f'''. No grey band on fore neck, which is chestnut like the rest of the under-parts.

a⁴. Under tail-coverts almost entirely white, with sometimes a few grey spots ..... *torquata* ♂, p. 121.

b⁴. Under tail-coverts thickly barred with grey, like the vent and abdomen..... ..... *stellata* ♂, p. 123.

e'. Breast and abdomen as well as the under tail-coverts white; a broad pectoral band of grey (♂), with a second band of rufous across lower breast, and flanks also rufous (♀)..... *alcyon*, p. 124.

B. Upper surface green.

c. Throat white like the abdomen.

f'. Larger; tail without white at the base, the outer tail-feather barred with white to the base..... *amazona* ♂ ♀, p. 129.

g'. Smaller; tail white at the base, the greater part of the inner web white ..... *americana* & allies, [pp. 131–134.

d. Throat chestnut, a little lighter only than the abdomen.

h'. Larger; abdomen deep chestnut like the breast; male without any pectoral band; female with a green band across the breast ..... *inda*, p. 137.

i'. Smaller; abdomen white.

i''. Under surface of body chestnut (♂), or chestnut with a green band across the chest (♀); no green spots on the sides of the white abdomen.

g'''. Wings externally uniform, not spotted with white or buff..... *superciliosa*, p. 138.

h'''. Wings externally spotted with white or fulvous ..... *stictoptera*, p. 139.

k''. Under surface of body chestnut, but having the white abdomen bordered with green spots on its upper pectoral margin..... *æquatorialis*, p. 140.

1. Ceryle rudis.

The Black and White Kingfisher, *Edwards, Nat. Hist. B.* i. p. 9, pl. 9 (1743); *Lath. Gen. Syn.* i. pt. 2, p. 612 (1782).

Le Martin-Pescheur blanc et noir, *Brisson, Orn.* iv. p. 520, pl. xxxix. fig. 2 (1760).

Alcedo rudis, *Linn. Syst. Nat.* i. p. 181 (1766); *Gm. Syst. Nat.* i. p. 457 (1788); *Vieill. N. Dict. d'Hist. Nat.* xix. p. 409 (1818, pt.); *Temm. Man. d'Orn.* iii. p. 294 (1835); *Gould, B. Eur.* ii. pl. 62 (1837); *Keys. u. Blas. Wirb. Eur.* p. 149 (1840); *Schl. Rev. Crit.* p. 11 (1844); *E. C. Taylor, Ibis*, 1859, p. 47; *Linderm. Vög. Griechenl.* p. 43 (1860); *Schl. Mus. Pays-Bas*, Alced. p. 2 (1863, pt.); *Tristr. Ibis*, 1866, p. 84; *Danf. Ibis*, 1878, p. 7.

Martin-pêcheur hupé du Cap de Bonne Espérance, *Daubent. Pl. Enl.* viii. pl. 716.

Martin-pêcheur de Senegal, *Daubent. t. c.* pl. 62.

Ceryle rudis, *Boie, Isis*, 1828, p. 316; *Mühle, Orn. Griechenl.* p. 31 (1844); *Rüpp. Syst. Uebers.* p. 23 (1845); *Gray, Gen. B.* i. p. 82 (1847, pt.); *id. List Fissir. Brit. Mus.* p. 60 (1848, pt.); *Bp. Consp.* i. p. 159 (1850, pt.); *Reichenb. Handb., Alced.* p. 20, Taf. 408. fig. 3097 (1851); *Cass. Cat. Halc. Philad. Mus.* p. 6 (1852, pt.); *Bp. Consp. Vol. Anis.* p. 10 (1854, pt.); *Hartl. Orn. Westafr.* p. 37 (1857); *Grill, Zool. Anteckn.* pp. 11, 46 (1858); *Cass. Proc. Philad. Acad.* 1859, p. 34; *Tristr. Ibis*, 1859, p. 27; *Gurney, t. c.* p. 245; *Cab. & Heine, Mus. Hein.* Th. ii. p. 148 (1860); *Hartl. J. f. O.* 1861, p. 105; *Allen, Ibis*, 1862, p. 360; *Adams, Ibis*, 1864, pp. 15, 237; *Kirk, t. c.* p. 235; *Layard, B. S. Afr.* p. 67 (1867); *Taylor, Ibis*, 1867, p. 56; *Degl. & Gerbe, Orn. Eur.* i. p. 177 (1867); *Loche, Expl. Sci. Algér., Ois.* ii. p. 93 (1867); *Gray, Hand-l. B.* i. p. 97, no. 1181 (1869); *Sharpe, Ibis*, 1869, pp. 282, 385; *Ayres, t. c.* p. 290; *Heugl. Orn. N.O.-Afr.* i. p. 184 (1869); *Doderl. Avif. Sicil.* p. 57 (1869); *Blanf. Geol. & Zool. Abyss.* p. 325 (1870); *Finsch & Hartl. Vög. Ostafr.* p. 175 (1870); *Fritsch,*

Vög. Eur. tab. xv. fig. 11 (1870); *Sharpe, Monogr. Alced.* p. 61, pl. 19 (1871, pt.); *id. P. Z. S.* 1871, p. 603; *Saunders, Ibis*, 1871, p. 67; *Gurney in Anderss. B. Dam.-Ld.* p. 59 (1872); *Shelley, B. Egypt*, p. 167 (1872); *id. & Buckley, Ibis*, 1872, p. 286; *Ussher, Ibis*, 1874, p. 79; *Buckley, t. c.* p. 364; *Dresser, B. Eur.* v. p. 125, pl. 291 (1875); *Shelley, Ibis*, 1875, p. 69; *Reichen. J. f. O.* 1875, pp. 16, 49; *Sharpe, ed. Layard's B. S. Afr.* pp. 110, 807 (1875–84); *id. & Bouvier, Bull. Soc. Zool. France*, i. p. 40 (1876); *Blanf. East. Pers.* ii. p. 122 (1876); *Reichen. J. f. O.* 1877, p. 20; *Fischer, t. c.* p. 425; *Bocage, Orn. Augola*, p. 97 (1877); *Danf. Ibis*, 1877, p. 262; *Cab. J. f. O.* 1878, p. 235; *Fischer & Reichen. t. c.* p. 258; *Fischer, t. c.* p. 289; *Nichols. P. Z. S.* 1878, p. 355; *Fischer, J. f. O.* 1879, p. 293; *Oust. Nouv. Arch. Mus.* (2) ii. p. 80 (1879); *Ayres, Ibis*, 1880, p. 262; *Sharpe in Oates' Matabele-Land*, App. p. 306 (1881); *Shelley, P. Z. S.* 1881, p. 568; *Holub & Pelz. Beitr. Orn. Sudafr.* p. 64 (1882); *Shelley, Ibis*, 1882, p. 244; *Butler, Feilden, & Reid, Zool.* 1882, p. 206; *Salv. Cat. Strickl. Coll.* p. 416 (1882, pt.); *Forbes, Ibis*, 1883, p. 523; *Hartl. Abhandl. nat. Ver. Bremen*, viii. p. 207 (1883); *Böhm, J. f. O.* 1883, p. 172; *Schalow, t. c.* p. 349; *Tristr. Faun. & Flor. Palest.* p. 86 (1884); *Fischer, Zeitschr. ges. Orn.* i. p. 361 (1884); *Salvad. Ann. Mus. Civ. Genov.* (2) i. p. 111 (1884); *Büttik. Notes Leyden Mus.* vii. p. 161 (1885), viii. p. 249 (1886), x. p. 70 (1888), xi. p. 67 (1889); *Fischer, J. f. O.* 1885, p. 126; *Hartert, J. f. O.* 1886, p. 594; *Oust. Bibl. haut Etudes*, xxxi. Art. x. p. 3 (1886); *Reichen. J. f. O.* 1887, p. 61; *Matschie, t. c.* p. 151; *Schalow, t. c.* p. 236; *Symonds, Ibis*, 1887, p. 327; *Souza, Jorn. Lisb.* 1887, p. 42; *Bocage, t. c.* p. 97; *Salvad. Ann. Mus. Genov.* (2) iv. p. 586 (1887), vi. p. 222 (1888); *Guillem. Ibis*, 1888, p. 102; *Shelley, t. c.* p. 296; *Lilford, t. c.* p. 331; *Koenig, J. f. O.* 1888, p. 166; *Tacz. Ornis*, 1888, p. 454; *Reichen. J. f. O.* 1889, p. 276, 1890, p. 116.

Ispida bitorquata, *Swains. Classif. B.* ii. p. 336 (1837).

Ispida bicincta, *Swains. B. W. Afr.* ii. p. 95 (1837).

Ceryle bicincta, *Reichenb. Handb., Alced.* p. 20, Taf. 408. fig. 3098 (1851).

Ceryle leucomelas, *Brehm, Vogelf.* p. 51 (1855).

Alcedo bicincta, *Chapm. Trav. S. Afr.* ii. App. p. 409 (1868).

Adult male. General colour of upper surface black, streaked with white on the head, the feathers of which are edged with white; on the nape a conspicuous white patch, the feathers streaked with black shaft-centres; the back black, with white edgings and white bases to all the feathers, the bases of the scapulars causing a more or less distinct shoulder-patch; rump and upper tail-coverts black, with a large subterminal black spot on each feather; wing-coverts black, broadly edged with white, the inner greater coverts with a large patch of white, the feathers having subterminal black spots; primary-coverts black; primaries black, edged with white at the tips, the secondaries black, broadly tipped with white and barred externally with three rows of white spots, forming distinct bars: the inner secondaries for the most part white, with an irregular black mark towards the end of the outer web; tail white at base, black for the terminal half, with a broad white tip: the white base of the tail-feathers chequered by a row of black spots, forming a bar; lores, a spot below the eye, and a broad eyebrow white; sides of face and ear-coverts black;

cheeks and sides of neck white, extending backwards round the hind neck, so as to form a nearly complete collar; under surface of body white, with two bands, one across the breast very broad, narrowing towards the centre, and an inferior narrower band across the lower breast; flanks also mottled with black spots; upper wing-coverts, axillaries, and inner lining of quills white: "bill and legs black; iris dark brown" (*G. E. Shelley*). Total length 10·5 inches, culmen 2·5, wing 5·7, tail 3·1, tarsus 0·35.

Adult female. Similar to the male, but wanting the second, inferior, pectoral band; the upper pectoral band also being incomplete, and represented by two large black patches, one on each side of the upper breast. Total length 10·5 inches, culmen 2·55, wing 5·3, tail 3, tarsus 0·35.

Breeding birds are always much darker than those killed at other seasons of the year, by reason of the wearing away of the white margins to the feathers.

Young birds are easily distinguished by their shorter bills, greyish-black pectoral bands, and by having the feathers of the lower throat and fore neck edged with dusky blackish.

Hab. The Eastern countries of the Mediterranean, eastward to the Persian Gulf. The whole of Africa.

a–d. Ad. sk.	River Gambia (*Sharpe Coll.*).	Tweeddale Coll.
e. Imm. sk.	Bathurst (*Quin*).	Sharpe Coll.
f, g. ♂ ♀ ad. sk.	Gold Coast, Sept. 23 (*Sintenis*).	Sharpe Coll.
h, i. Ad. sk.	Gold Coast.	Shelley Coll.
k. Ad. sk.	Naqua River (*H. T. Ussher*).	Shelley Coll.
l, m. ♀ ad. sk.	Accra, May (*J. Smith*).	Shelley Coll.
n. Ad. sk.	Lagos.	Sir A. Moloney [P.].
o. Ad. sk.	River Niger (*Dr. Baikie*).	Sharpe Coll.
p. Ad. sk.	Camaroons Mts., Feb. 4 (*A. Crossley*).	Sharpe Coll.
q. Ad. sk.	Gaboon (*Du Chaillu*).	Tweeddale Coll.
r. Ad. sk.	Angola (*Hamilton*).	Sharpe Coll.
s. ♀ ad.; *t, u, v.* ♂ juv. sk.	Galungo, Angola, Aug. Sept. (*Sala*).	Sharpe Coll.
w. ♂ ad. sk.	Great Namaqua-Land, May (*C. J. Andersson*).	Sharpe Coll.
x. ♀ ad. sk.	Cape Colony (*E. L. Layard*).	Sharpe Coll.
y, z. ♀ ad. et juv. sk.	Knysna, Dec., Jan. (*C. J. A.*).	Sharpe Coll.
a′. ♂ ad. sk.	Kronstad, Orange Free State, Jan. (*F. Symonds*).	Gurney Coll.
b′. Ad. sk.	Durban, Natal (*Gordge*).	Shelley Coll.
c′, d′. Ad. sk.	Upper Umlaas River (*Gordge*).	Shelley Coll.
e′. ♂ ad. sk.	Transvaal (*T. Ayres*).	A. Foresman, Esq. [P.].
f′, g′. ♂ ♀ ad. sk.	Transvaal (*T. Ayres*).	Sharpe Coll.
h′. ♂ ad. sk.	High Veldt, Transvaal, Dec. 7 (*F. Oates*).	W. E. & C. G. Oates, Esqrs. [P.].
i′, k′, l′. Ad. sk.	Makalaka Country (*Dr. Bradshaw*).	Shelley Coll.
m′. Ad. sk.	Zambesi (*Dr. Meller*).	Tweeddale Coll.

n'. Ad. sk.	Tete, Zambesi (*Sir J. Kirk*).	Livingstone Exped.
o'. Ad. sk.	Pangani River (*Sir J. Kirk*).	Shelley Coll.
p'. Ad. sk.	Dar-es-Salaam (*E. C. Buxton*).	Shelley Coll.
q'. ♂ ad. sk.	Lamu, Sept. 9.	F. J. Jackson, Esq. [P.].
r'. ♂ ad. sk.	Mtoni, E. Africa, March (*F. Bohndorff*).	Emin Pasha [P.].
s'. Ad. sk.	White Nile (*J. Petherick*).	Tweeddale Coll.
t'. ♂ imm. sk.	Dongolo, Tigré, May 18.	W. T. Blanford, Esq. [C.].
u'. ♂ ad.; *v'*, *w'*. ♀ ad.; *x'*. ♂ juv. sk.	Egypt, March, May (*G. E. S.*).	Shelley Coll.
y'. Ad. st.	Egypt.	Sir J. Bowring [P.].
z'. ♀ ad. sk.	Tyre.	Canon Tristram [C.].
a'', *b''*. ♂ ad.; *c''*, *d''*. Juv. sk.	Plains of Gennesaret.	Canon Tristram [C.].
e''. ♂ ad. sk.	Palestine, March 16 (*H. B. Tristram*).	Seebohm Coll.
f''. Ad. sk.	Harpaca, Anatolia, Asia Minor, Jan. (*C. G. Danford*).	Seebohm Coll.
g''. Ad. sk.	Smyrna (*Huet du Pavillon*).	Gould Coll.
h''–l''. Ad. sk.	Mesopotamia (*Commander Jones*).	India Museum.
m''. ♀ ad. sk.	Near Shiraz.	Sir O. St. John [C.].
n'', *o''*. ♀ ad. sk.	Fao, Persian Gulf, Oct. 18.	W. D. Cumming, Esq. [C.].
p''. Sternum.	Abyssinia.	W. T. Blanford, Esq. [C.].

Subsp. α. Ceryle varia.

Alcedo rudis (*nec L.*), *Vieill. N. Dict. d'Hist. Nat.* xix. p. 409 (1818, pt.); *Frankl. P. Z. S.* 1831, p. 116; *Sykes, P. Z. S.* 1832, p. 84; *McClell. P. Z. S.* 1839, p. 156; *Schl. Mus. Pays-Bas*, Alced. p. 2 (1863, pt.); *id. op. cit. Revue*, p. 1 (1874).

Ispida rudis (*nec L.*), *Jerd. Madr. Journ.* xi. p. 232 (1840).

Ceryle varia, *Strickl. Ann. & Mag. Nat. Hist.* vi. p. 418 (1841); *id. P. Z. S.* 1842, p. 167; *Cab. & Heine, Mus. Hein.* Th. ii. p. 148 (1860); *Salvad. Ann. Mus. Civic. Genov.* (2) iv. p. 585 (1887).

Alcyon rudis, *Hodgs. Icon. ined. in Brit. Mus., Passeres*, pl. 18. fig. 2 (no. 365); *id. in Gray's Zool. Misc.* p. 82 (1844).

Ceryle rudis (*nec L.*), *Gray, Cat. Mamm. etc. Nepal pres. Hodgs.* p. 57 (1846); *id. Gen. B.* i. p. 82 (1847, pt.); *id. List Fissir. Brit. Mus.* p. 60 (1848); *Blyth, Cat. B. Mus. As. Soc.* p. 49 (1849, pt.); *Bp. Consp.* i. p. 159 (1850, pt.); *Horsf. & Moore, Cat. B. Mus. E.I. Co.* i. p. 131 (1854, pt.); *Swinh. Ibis*, 1860, p. 49, 1861, p. 31; *Irby, t. c.* p. 228; *Jerd. B. Ind.* i. p. 232 (1862); *Swinh. Ibis*, 1866, pp. 292, 408; *Blyth, t. c.* p. 349; *Godw.-Aust. J. A. S. Beng.* xxxix. p. 95 (1870); *Swinh. Ibis*, 1870, p. 92; *Blanf. t. c.* p. 466; *id. J. A. S. Beng.* xl. p. 271 (1871); *Swinh. P. Z. S.* 1871, p. 347; *Sharpe, Monogr. Alced.* p. 61 (1871); *Stoliczka, J. A. S. Beng.* xli. p. 232 (1872); *Holdsw. P. Z. S.* 1872, p. 424; *Hume, Nests & Eggs Ind. B.* p. 109 (1873); *id. Str. F.* i. pp. 93, 103, 118, 170 (1873); *Adam, t. c.* p. 372; *Swinh. Ibis*, 1873, p. 361; *Hayes Lloyd, t. c.* p. 407;

Ball, Str. F. ii. p. 387 (1874); *Hume, t. c.* p. 470; *id. Str. F.* iii. p. 52 (1875); *Butler, t. c.* p. 456; *Blyth & Wald. B. Burm.* p. 71 (1875); *Fairb. Str. F.* iv. p. 254 (1876); *Godw.-Aust. J. A. S. Beng.* xlv. p. 69 (1876); *Hume, Str. F.* v. p. 19 (1877); *Oates, t. c.* p. 143; *David & Oust. Ois. Chine*, p. 77 (1877); *Hume & Davison, Str. F.* vi. p. 85 (1878); *Davids. & Wenden, Str. F.* vii. p. 77 (1878); *Hume, t. c.* p. 97; *Ball, t. c.* p. 204: *Cripps, t. c.* p. 261; *Legge, B. Ceylon*, i. p. 288 (1878); *Anders. Rep. Zool. Coll. Yunnan*, p. 580 (1878); *Hume, Str. F.* viii. pp. 50, 86 (1879); *Scully, t. c.* p. 238; *Scrope Doig, t. c.* p. 370; *Butler, Cat. B. Sind etc.* p. 17 (1879); *Vidal, Str. F.* ix. p. 50 (1880); *Bingham, t. c.* p. 156; *Butler, t. c.* p. 383; *id. Cat. B. S. Bomb. Pres.* p. 20 (1880); *C. Swinh. Ibis*, 1882, p. 102; *Oates, Handb. B. Brit. Burm.* ii. p. 87 (1883); *Reid, Str. F.* x. p. 22 (1883); *Oates, t. c.* p. 188; *Davidson, t. c.* p. 256; *Davison, t. c.* p. 352; *Murray, Vertebr. Faun. Sind*, p. 112 (1884); *Swinh. & Barnes, Ibis*, 1885, p. 61; *Styan, Ibis*, 1887, p. 230; *Taylor, Str. F.* x. p. 457 (1887); *Cordeaux, Ibis*, 1888, p. 224; *Hume, Str. F.* xi. p. 47 (1888); *Oates, ed. Hume's Nests & Eggs Ind. B.* p. 8 (1890).

Ceryle leucomelanura, *Reichenb. Handb., Alced.* p. 21, Taf. 409 B. fig. 3488 (1851).

Adult male. Similar to *C. rudis*, but generally distinguished by a more distinct black malar line, by having the throat distinctly marked with large spots of black, by having the flanks very distinctly spotted with black rather than streaked, and especially by the white base of the tail not showing any black bars: "bill black, the mouth inside fleshy yellow; feet black; iris dark brown" (*J. R. Cripps*). Total length 11·5 inches, culmen 2·6, wing 5·5, tail 2·9, tarsus 0·45.

Adult female. Differs from the female of *C. rudis* in the same way that the male does. Total length 11·5 inches, culmen 2·5, wing 5·6, tail 3·25, tarsus 0·5.

Hab. From Baluchistan to Sind, and over the whole of the Indian Peninsula and Ceylon eastwards to China.

a. Ad. sk.	Quetta, Nov. (*O. T. Duke*).	Hume Coll.
b, c. Ad. sk.	Sind (*Dr. H. Gould*).	India Museum.
d. ♂ ad. sk.	Kutta Dhera, Upper Sind, Feb. (*A. O. H.*).	Hume Coll.
e, f. ♂ ad. sk.	Larkhana, Jan. (*A. O. H.*).	Hume Coll.
g. ♂ ad. sk.	Sukhur, Dec. 30 (*A. O. H.*).	Hume Coll.
h, i. ♂ ad. sk.	Chenab River, Dec. (*A.O. H.*).	Hume Coll.
k. ♀ ad. sk.	Shahpur, Jhelum River, Nov. 25 (*A. O. H.*).	Hume Coll.
l. ♀ ad. sk.	Roree, Sind.	Hume Coll.
m. Ad. sk.	Kutch (*Dr. Stoliczka*).	Hume Coll.
n. ♀ ad. sk.	Dhoraji, Kathiawar, Mar. 23.	Col. Hayes Lloyd [P.].
o. ♂ ad. sk.	Deesa, April 1 (*E. A. Butler*).	Hume Coll.
p. Ad. sk.	Mount Abu (*E. A. B.*).	Hume Coll.
q. ♀ ad. sk.	Oodeypore, Feb. 13 (*A.O. H.*).	Hume Coll.
r, s. ♂ ♀ ad. sk.	Sambhur, Jan., Aug. (*R. M. Adam*).	Hume Coll

t. ♂ ad. sk.	Delhi.	Hume Coll.
u. ♂ ad. ; *v*, *w*. ♀ ad. sk.	Gurgaon District, Nov., Jan. (*W. N. Chill*).	Hume Coll.
x, *y*. ♂ ad. sk.	Sirza, Nov., Dec.	Hume Coll.
z. ♀ ad. sk.	Murdan, Dec.	Hume Coll.
a'. Ad. sk.	Kashmir.	E. M. Langworthy, Esq. [P.].
b'. Ad. sk.	Kashmir (*Dr. Bellew*).	India Museum.
c'. ♂ juv. sk.	R. Jumna (*Dr. Scott*).	Tweeddale Coll.
d'. ♀ ad. sk.	Etawah.	Hume Coll.
e'. ♂ ad. sk.	Allahabad, Nov. 8.	Hume Coll.
f', *g'*. ♂ ♀ ad. sk.	Chumparun District, April (*R. M. Adam*).	Hume Coll.
h'. Ad. sk.	Behar.	Hodgson Coll.
i'. Ad. sk.	Saugor (*Hooper*).	India Museum.
k', *l'*. Ad. sk.	Kamptee.	Dr. B. Hinde [P.].
m', *n'*. ♂ ♀ ad. sk.	Mhow, June, Nov.	Col. Swinhoe [P.].
o', *p'*; *q'*. Ad. sk.	Khandeish.	Tweeddale Coll.
r'. ♂ ad. sk.	Khandeish, Nov. 25 (*J. Davidson*).	Hume Coll.
s'. ♂ ad. ; *t'*, *u'*. ♀ ad. sk.	Wadale, Ahmednuggur District, Nov. (*S. B. Fairbank*).	Hume Coll.
v'. Ad. sk.	Deccan (*Burgess*).	Gould Coll.
w'. Ad. sk.	Deccan (*Sykes*).	India Museum.
x', *y'*. ♂ ♀ ad. sk.	Calicut.	Tweeddale Coll.
z', *a''*. ♂ ♀ ad. sk.	Anjango, Travancore, Dec.	Hume Coll.
b''. ♀ ad. sk.	Vellarney, Nov.	F. Bourdillon, Esq. [C.].
c'', *d''*. ♂ ad. ; *e''*, *f''*. ♀ ad. sk.	Ceylon (*H. Nevill & S. Chapman*).	Tweeddale Coll.
g''. ♀ juv. sk.	South Province, Ceylon, March (*W. V. Legge*).	R. B. Sharpe, LL.D. [P.].
h'', *i''*. ♂ ♀ ad. sk.	Madras.	Gould Coll.
k'', *l''*. ♂ ad. sk.	Madras.	Rev. H. H. Baber [P.].
m'', *n''*. ♂ ♀ ad. st.	Madras.	Rev. H. H. Baber [P.].
o''. ♀ ad. sk.	Calcutta, Jan.	Hume Coll.
p''. ♀ ad. sk.	Dacca.	Hume Coll.
q''. ♂ ad. sk.	Dinapur (*W. E. Brooks*).	Hume Coll.
r'', *s''*. ♂ ad. sk.	Nepal.	Hodgson Coll.
t'', *u''*. ♂ ad. sk.	Darjiling Terai, Dec., Jan. (*L. Mandelli*).	Hume Coll.
v''. ♀ ad. sk.	Buxa Dooars, Feb. (*L. M.*).	Hume Coll.
w'', *x''*. ♂ ♀ ad. sk.	Bhootan Dooars, Jan., Feb. (*L. M.*).	Hume Coll.
y''. ♀ ad. sk.	Kamroop, Assam (*A. W. Chennell*).	Tweeddale Coll.
z'', *a*^{3}. ♂ ad. sk.	Sadhyia, June (*J. Cockburn*).	Hume Coll.
b^3, *c*^{3}. ♂ ♀ ad. sk.	Dibrughur, Jan., May (*J. R. Cripps*).	Hume Coll.
d^3, *e*^{3}. ♂ ♀ ad. sk.	Kalleejung, Brahmaputra River, Dec. (*W. Davison*).	Hume Coll.
f^3. ♂ ad. sk.	Cachar (*J. Inglis*).	Hume Coll.
g^3. ♂ ad. sk.	Sylhet, Jan. 24 (*A. O. H.*).	Hume Coll.
h^3. ♂ ad. sk.	Manipur, April 1 (*A. O. H.*).	Hume Coll.

i^3. ♂ ad. sk.	Tonghoo, Nov. 13 (*R. G. W. R.*).	Tweeddale Coll.
k^3. ♂ ad. sk.	Thayetmayo District (*E. W. O.*).	Hume Coll.
l^3, m^3. ♂ ♀ ad. sk.	Lower Pegu, Nov., Dec.	Oates Coll.
n^3. ♂ imm. sk.	Pegu, Dec. 24 (*R. G. W. R.*).	Tweeddale Coll.
o^3. ♀ ad. sk.	Sittang River, Dec. 29 (*R. G. W. R.*).	Tweeddale Coll.
p^3. ♂ ad. sk.	Sittang River, Feb. (*W. D.*).	Hume Coll.
q^3. ♂ ad. sk.	Moulmein, Dec. (*W. D.*).	Hume Coll.
r^3, s^3. ♂ ad. sk.	Khyketo, Feb. (*W. D.*).	Hume Coll.
t^3. ♀ ad. sk.	Kaukaryit, June 2.	Major C. T. Bingham [P.].
u^3, v^3, w^3. ♂ ad.; x^3. ♀ ad. sk.	Kaukaryit, June, Oct. (*J. Darling*).	Hume Coll.
y^3. ♀ ad. sk.	Megaloon, Hongthraw River, Jan. (*W. D.*).	Hume Coll.
z^3, a^4. ♂ ♀ ad. sk.	Theinzeik, Dec., Jan. (*W. D.*).	Hume Coll.
b^4, c^4. ♂ ♀ ad. sk.	Thatone, Dec. (*W. D.*).	Hume Coll.
d^4. ♂ ad. sk.	Amherst, Feb. (*W. D.*).	Hume Coll.
e^4. ♂ ad. sk.	Mount Sabab, Siam (*Mouhot*).	Gould Coll.
f^4. ♂ ad.; g^4, h^4. ♀ ad. sk.	Saigon, Cochin China.	M. E. Pierre [P.].
i^4. ♂ ad. sk.	Cambodia (*Mouhot*).	Tweeddale Coll.
k^4. ♂ ad. sk.	Canton, China (*Tuckett*).	Tweeddale Coll.
l^4. ♂ ad. sk.	Foochow, Jan. (*R. Swinhoe*).	Seebohm Coll.
m^4. ♀ ad. sk.	Amoy (*R. Swinhoe*).	Gould Coll.
n^4, o^4. ♂ ♀ ad. sk.	Amoy, Dec., March. (*R. Swinhoe*).	Seebohm Coll.
p^4. ♂ ad. sk.	Amoy.	Consul Swinhoe [C.].
q^4. ♂ ad. sk.	Whampoa, April 17 (*R. Swinhoe*).	Seebohm Coll.
r^4. ♂ ad. sk.	Ichang Gorge.	C. Maries, Esq. [C.].
s^4. ♂ ad. sk.	Hainan, Feb. (*R. Swinhoe*).	Seebohm Coll.
t^4. Bones of trunk.	Nepal.	Hodgson Coll.

2. Ceryle lugubris.

Alcedo guttatus (*nec Bodd.*), *Vigors, P. Z. S.* 1830, p. 22; *Gould, Cent. Himal. B.* pl. 5 (1832).

Alcyon guttata, *Hodgs. Icon. ined. in Brit. Mus., Passeres*, pl. 18. fig. 1 (no. 364); *id. in Gray's Zool. Misc.* p. 82 (1844).

Cervle guttata (*nec Bodd.*), *Gray, Gen. B.* i. p. 82 (1847); *id. List Fissir. Brit. Mus.* p. 60 (1848); *Blyth, Cat. B. Mus. As. Soc.* p. 48 (1849); *Bp. Consp.* i. p. 159 (1850); *Reichenb. Handb., Alced.* p. 21, Taf. 410. fig. 3104 (1851); *Cass. Cat. Halc. Philad. Mus.* p. 6 (1852); *Horsf. & Moore, Cat. B. Mus. E. I. Co.* i. p. 132 (1854); *Irby, Ibis*, 1861, p. 227; *Jerd. B. Ind.* i. p. 234 (1862); *Gray, Cat. Mamm. etc. Nepal pres. Hodgs.* p. 57 (1863); *Beavan, Ibis*, 1865, p. 408; *Tytler, Ibis*, 1868, p. 196; *Stoliczka, J. A. S. Beng.* xxxvii. p. 19 (1868); *Sharpe, Monogr. Alced.* p. 57, pl. 18 (1869); *Gray, Hand-l. B.* i. p. 97, no. 1183 (1869); *Jerd. Ibis*, 1872, p. 4; *Swinh. Ibis*, 1873, p. 361, 1875, p. 449; *Hume, Nests & Eggs Ind. B.* p. 10 (1873); *id. Str. F.* ii. p. 470 (1874); *Blyth & Wald. B. Burm.* p. 71 (1875); *Godw.-Aust. J. A. S. Beng.* xlv. p. 69 (1876); *Hume, Str. F.* v. p. 19 (1877); *Blakist. & Pryer, Ibis*, 1878, p. 229; *Godwin-Austen, J. A. S. Beng.* xlvii. pt. 2, p. 14

(1878); *Hume & Davison, Str. F.* vi. p. 85 (1878), viii. p. 86 (1879); *Bingham, t. c.* p. 193, ix. p. 156 (1880); *Oates, Handb. B. Br. Burm.* ii. p. 76 (1883); *Blakist. Amended List B. Japan*, p. 14 (1884); *C. H. T. Marshall, Ibis*, 1884, p. 409; *Styan, Ibis*, 1887, p. 230; *Hume, Str. F.* xi. p. 48 (1888); *Seebohm, B. Japan. Emp.* p. 174 (1890); *Oates, ed. Hume's Nests & Eggs Ind. B.* iii. p. 6 (1890).

Alcedo lugubris, *Temm. Pl. Col.* iv. pl. 548 (1834); *Schl. Mus. Pays-Bas*, Alced. p. 2 (1863).

Alcedo (Ceryle) lugubris, *Temm. & Schl. Faun. Jap., Aves*, p. 77, pl. 38 B (1850).

Ceryle lugubris, *Bp. Consp.* i. p. 160 (1850); *Reichenb. Handb., Alced.* p. 22, Taf. 408. figs. 3099–3100 (1851); *Swinh. P. Z. S.* 1863, p. 333; *Gray, Hand-l. B.* i. p. 97, no. 1184 (1869): *Sharpe, Monogr. Alced.* p. 59 (1869); *Swinh. P. Z. S.* 1871, p. 348; *id. Ibis*, 1873, pp. 96, 361; *David & Oust. Ois. Chine*, p. 78, pl. 10 (1877); *Tacz. P. Z. S.* 1887, p. 600, 1888, p. 463.

Megaceryle guttata, *Kaup, Fam. Eisv.* p. 8 (1848); *Bp. Consp. Volucr. Anis.* p. 10 (1854); *Cab. & Heine, Mus. Hein.* Th. ii. p. 149 (1860).

Megaceryle lugubris, *Bp. t. c.* p. 10 (1854); *Cab. & Heine, t. c.* p. 149 (1860).

Adult male. Head crested, black, varied with white spots, some of the central crest-feathers being pure white; rest of upper surface of body ashy grey, banded with white; wing-coverts black, spotted with white; quills, upper tail-coverts, and tail black, banded with white; round the hind neck a broad white collar; sides of face and ear-coverts black, the feathers varied with white margins; cheeks pure white, as well as the throat; these parts separated from each other by a line of black, which commences on the chin and follows the malar line till it joins the pectoral band; on the hinder cheeks this band is tinged with brick-red; across the chest is a band of black-and-white spotted feathers of varying pattern, but washed with brick-red; breast, abdomen, and under tail-coverts white, the sides of the body barred with ashy black, a few bars also visible on the lateral under tail-coverts; under wing-coverts and axillaries white, with a few shaft-streaks and spots of black. Total length 16·5 inches, culmen 2·9, wing 7·3, tail 4·2, tarsus 0·4.

Adult female. Similar to the male, but wanting the brick-red colour on the hinder cheeks and pectoral band. The axillaries and long under wing-coverts are pale rufous, the coverts near the edge of the wing being white; the sides of the body also slightly tinged with rufous, and having a few indistinct ashy bars: "bill black, greenish at the base; legs and feet olive-green; iris dark brown" (*Hume, MSS.*). Total length 14·5 inches, culmen 2·8, wing 7·2, tail 4·2, tarsus 0·45.

Young. Similar to the adult female, but much more strongly washed with rufous on the flanks, the under tail-coverts being also pale rufous, lighter than the flanks and under wing-coverts; the pectoral band is much narrower and the black markings take the

form of long ovate spots; both the pectoral bars and the hinder cheeks are slightly washed with rufous.

The *young male* is like the old male and has white axillaries, but has a tinge of rufous on the sides of the body. The pectoral band is narrower than in the adult, and the markings are ovate. It is evident that these markings gradually change into cross bars by means of an alteration of the pattern of the feather instead of a moult.

Hab. The Himalayas, eastward to the hills of Assam, Cachar, and Tenasserim, and throughout the mountains of China to Japan and the Corea.

a, *b*. ♂ ♀ ad. sk.	N.W. Himalayas.	Pinwill Coll.
c. Ad. sk.	N.W. Himalayas.	Gould Coll. (Type of *Alcedo guttatus*.)
d, *e*. ♂ ♀ ad. sk.	Kotegurh, Dec.	Hume Coll.
f, *g*. ♀ ad. sk.	Simla, Dec.	Hume Coll.
h, *i*. ♂ ad.; *k*. ♀ ad. sk.	Mussoorie.	Hume Coll.
l. ♀ juv. sk.	Dehra Dhoon (*Thelwall*: *Sharpe Coll.*).	Tweeddale Coll.
m. ♀ ad. sk.	Kalsi, Dhoon.	Hume Coll.
n. ♀ ad. sk.	Kumaon (*Strachey*).	India Museum.
o. ♂ ad. sk.	Kumaon.	Tweeddale Coll.
p. ♀ ad. sk.	Ramnuggur, Kumaon Bhabur, March 10 (*Dr. King*).	Hume Coll.
q. ♂ ad. sk.	Naini Tal, March (*G. F. L. Marshall*: *Sharpe Coll.*).	Tweeddale Coll.
r. ♂ ad. sk.	River Surgoo, between Pethora and Almora, Nov. 3.	Hume Coll.
s. ♂ ad. sk.	Kosie, Oct. 12.	Hume Coll.
t. ♀ ad. sk.	Nakinghat, Oct. 4.	Hume Coll.
u, *v*. ♂ ad. st.	Nepal.	Hodgson Coll.
w, *x*. ♂ ♀ ad. sk.	Nepal.	Hodgson Coll.
y. ♀ ad. sk.	Nepal (*B. H. Hodgson*).	India Museum.
z, *a'*. ♂ ad.; *b'*. ♀ ad. sk.	Native Sikhim, May, Oct. (*L. Mandelli*).	Hume Coll.
c'–*f'*. ♂ ad.; *g'*–*l'*. ♀ ad. sk.	Sikhim, Jan. to April, June, Nov. (*L. Mandelli*).	Hume Coll.
m', *n'*. ♂ ♀ ad. sk.	Mongphoo, Feb.	Hume Coll.
o'. ♀ ad. sk.	Assam (*A. W. Chennell*).	Tweeddale Coll.
p'. ♀ ad. sk.	N. Khasia Hills, Jan. (*A. W. Chennell*).	Tweeddale Coll.
q'. ♀ ad. sk.	Cachar (*J. Inglis*).	Hume Coll.
r', *s'*. ♂ ♀ ad. sk.	Kollidoo, Tenasserim, Feb., Nov. (*W. Davison*).	Hume Coll.
t'. ♂ ad. sk.	China (*Tuckett*).	Tweeddale Coll.
u'. ♂ ad. sk.	Interior mountains of China.	Shanghai Museum.
v'. ♂ ad. sk.	Japan.	C. Maries, Esq. [C.].
w'. ♂ ad. sk.	Nagasaki.	Gould Coll.
x', *y'*. ♂ ♀ ad. sk.	Hakodadi, Jan. (*W. Blakiston*).	Seebohm Coll.
z', *a''*. ♂ ♀ ad. sk.	Yokohama (*H. Pryer*).	Seebohm Coll.
b''. ♀ ad. sk.	Yedo Bay, March.	Seebohm Coll.

3. Ceryle maxima.

Alcedo maxima, *Pall. Spic. Zool.* fasc. iv. p. 14 (1769); *Gm. Syst. Nat.* i. p. 455 (1788); *Rüpp. Neue Wirb.* p. 69 (1835–40); *Schl. Mus. Pays-Bas*, Alced. p. 3 (1863); *id. op. cit. Revue*, p. 1 (1874).

Le Martin-pêcheur huppé du Cap de Bonne-Espérance, *Daubent. Pl. Enl.* viii. pl. 679.

Le Martin-pêcheur huppé, *Buff. Hist. Nat. Ois.* vii. p. 188 (1780).

Great African Kingfisher, *Lath. Gen. Syn.* i. pt. 2, p. 611 (1782).

Alcedo guttata, *Bodd. Tabl. Pl. Enl.* p. 42 (1783).

Alcedo afra, *Shaw, Gen. Zool.* viii. p. 55 (1812).

Ispida gigantea, *Swains. Classif. B.* ii. p. 336 (1887); *id. B. W. Afr.* ii. p. 93, pl. 11 (1837).

Ceryle maxima, *Gray, Gen. B.* i. p. 82 (1847); *id. List Fissir. Brit. Mus.* p. 61 (1848, pt.); *Bp. Consp.* i. p. 160 (1850); *Cass. Cat. Halc. Philad. Mus.* p. 2 (1852); *Heugl. Syst. Uebers.* p. 18 (1856); *Hartl. Orn. Westafr.* p. 37 (1857, pt.); *Gurney, Ibis*, 1859, p. 243; *Hartl. J. f. O.* 1861, p. 196; *Mont. Ibis*, 1862, p. 333; *Kirk, Ibis*, 1864, p. 325; *Hartm. J. f. O.* 1864, p. 232; *Layard, B. S. Afr.* p. 66 (1867); *Gurney, Ibis*, 1868, p. 154; *Layard, Ibis*, 1869, p. 72; *Ayres, t. c.* p. 290; *Sharpe, t. c.* p. 282; *id. Monogr. Alced.* p. 67, pl. 20 (1869); *Gray, Hand-l. B.* i. p. 187, no. 1185 (1869); *Heugl. Orn. N.O.-Afr.* i. p. 186 (1869); *Finsch & Hartl. Vög. Ostafr.* p. 173 (1870); *Sharpe, Ibis*, 1870, p. 485; *id. P. Z. S.* 1870, p. 149; *id. ed. Layard's B. S. Afr.* pp. 111, 807 (1875–84); *Ussher, Ibis*, 1874, p. 49; *Shelley, Ibis*, 1875, p. 69; *Reichen. J. f. O.* 1875, pp. 16, 49; *Buckley, Ibis*, 1876, p. 133; *Ayres, Ibis*, 1879, p. 291; *Fischer & Reichen. J. f. O.* 1879, p. 343; *Sharpe, in Oates' Matabele-Land*, App. *Birds*, p. 307 (1881); *Bocage, Orn. Angola*, p. 98 (1881); *Shelley, Ibis*, 1882, p. 244; *Butler, Feilden, & Reid, Zool.* 1882, p. 206; *Ayres, Ibis*, 1884, p. 223, 1885, p. 343; *Salvad. Ann. Mus. Civic. Genov.* (2) i. p. 112 (1884); *Böhm, J. f. O.* 1885, p. 47; *Fischer, t. c.* p. 126; *Büttik. Notes Leyden Mus.* vii. p. 160 (1885), viii. p. 248 (1886); *Matschie, J. f. O.* 1887, p. 151; *Schalow, t. c.* p. 236; *Symonds, Ibis*, 1887, p. 32; *Ayres, t. c.* p. 50; *Shelley, Ibis*, 1888, p. 291; *Büttik. Notes Leyden Mus.* x. pp. 70, 117 (1888); *Salvad. Ann. Mus. Genov.* (2) vi. p. 222 (1888); *Büttik. Notes Leyden Mus.* xi. p. 67 (1889); *Shelley, P. Z. S.* 1889, p. 357.

Megaceryle maxima, *Reichenb. Handb., Alced.* p. 22, Taf. 409. figs. 3101–2 (1851); *Bp. Consp. Vol. Zyg.* p. 10 (1854).

Megaceryle gigantea, *Reichenb. Handb., Alced.* p. 23, Taf. 409. fig. 3103 (1851).

Ceryle gigantea, *Hartl. J. f. O.* 1854, p. 5; *id. Orn. Westafr.* p. 38 (1857); *Heugl. J. f. O.* 1862, p. 288.

Ichthynomus maximus, *Cab. & Heine, Mus. Hein.* Th. ii. p. 150 (1860).

Ceryle sharpii (*nec Gould*), *Hartert, J. f. O.* 1886, p. 594.

Adult male. Above slaty black, darker on the head, which is crested; most of the crest-feathers with good-sized white spots upon both webs; towards the nape some of the feathers, in very old birds, unspotted; back and scapulars clearer slaty grey, a few shaft-stripes very plainly developed, and all the feathers spotted with white, of which spots about five show, two on each side, and one on

the apex of the feather; the lower part of the back and upper tail-coverts slaty grey, with a heart-shaped spot of black in the centre of the feather; the rest of the wing-coverts black, edged with slaty grey and conspicuously spotted with white; quills blackish, the inner web white at the base and broadly edged with slaty grey and spotted with white; tail dark slaty grey, lighter underneath, spotted and banded with white; a small spot in front of the eye, throat, and a line of feathers from the base of the lower mandible down the sides of the neck pure white, the latter varied with longitudinal black marks; cheeks, and a line of feathers below the last-mentioned line of white and black feathers, black, the former narrowly and the latter broadly varied with white; feathers of the throat and chest rich rufous, the sides varied with slaty grey, spotted with white; flanks white banded with slaty grey; under wing- and tail-coverts white, with an occasional black spot; centre of the abdomen and vent pure white: bill black; feet dark olive-brown; irides nearly black. Total length 14·8 inches, of bill from front 3·5, from gape 4·3, wing 8, tail 5·3, tarsus 0·4, middle toe 1, hind toe 0·3.

Adult female. Similar to the male, but instead of the upper part of the chest being rufous, it is replaced by a broad slate-coloured band, each feather being banded with white; below this is a white band, and the rest of the under surface of the body, with the under wing- and tail-coverts, is rufous. Total length 16·5 inches, of bill from front 3·5, from gape 4·5, wing 8, tail 4·75, tarsus 0·4, middle toe 1, hind toe 0·3.

Hab. The greater part of Tropical Africa, excepting the forest-regions of Gaboon and the Congo.

a. ♂ juv. sk.	River Gambia (*Sharpe Coll.*).	Tweeddale Coll.
b. ♀ ad. sk.	Axim.	Dr. Ogilvie Ross [P.].
c. ♂ juv. sk.	Accra, May (*J. Smith*).	Shelley Coll.
d, *e*. ♀ ad. sk.	Gold Coast (*Governor Ussher*).	Shelley Coll.
f. ♂ ad. sk.	River Volta (*Governor Ussher*).	Sharpe Coll.
g. ♀ ad. sk.	Lagos.	Sir A. Moloney [P.].
h. ♂ imm. sk.	River Niger.	Dr. Baikie [P.].
i. ♂ ad. sk.	Angola (*Hamilton*).	Sharpe Coll.
k, *l*, *m*. ♀ ad. sk.	Angola (*Monteiro*).	Sharpe Coll.
n. ♂ ad. sk.	Rio Dande, Angola, July 8 (*Sala*).	Sharpe Coll.
o, *p*. ♂ ad. et juv. sk.	Damara-Land (*C. J. Anderson*: *Sharpe Coll.*).	Tweeddale Coll.
q, *r*. ♂ ♀ ad. sk.	Knysna, March, Aug. (*C. J. A.*).	Sharpe Coll.
s. ♀ ad. sk.	Cape Colony (*E. L. Layard*: *Sharpe Coll.*).	Tweeddale Coll
t. ♂ ad. sk.	Natal.	Dr. Gueinzius [C.].
u. ♂ ad.; *v*. ♀ imm. sk.	Natal (*T. Ayres*).	Gould Coll.
w, *x*. ♂ ad.; *y*. ♀ ad. sk.	Durban, Natal, March 30 (*G. E. S.*).	Shelley Coll.
z. ♂ imm. sk.	Upper Umlaas River (*Gordge*).	Shelley Coll.
a'. ♀ juv. sk.	Transvaal (*T. Ayres*).	Sharpe Coll.

b'. ♂ ad. sk.	Potchefstroom, June (*T. Ayres*).	Gurney Coll.
c'. ♀. imm. sk.	Matengue River, Dec. 2 (*F. Oates*).	W. E. & C. G. Oates, Esqrs. [P.].
d'. ♂ ad. sk.	Zambesi (*Dr. Meller*).	Tweeddale Coll.
e'. ♂ ad. sk.	Zambesi.	Sir J. Kirk [P.].
f'. ♂ ad. sk.	Kilimanjaro.	F. J. Jackson, Esq. [P.].
g'. ♂ ad. sk.	Taveta, Aug. 1.	H. C. V. Hunter, Esq. [P.].
h'. ♂ ad. sk.	White Nile (*Petherick*).	Tweeddale Coll.

Subsp. *a*. Ceryle sharpii.

Ceryle sharpii, *Gould, Ann. & Mag. Nat. Hist.* (4) iv. p. 271 (1869); *Sharpe, Monogr. Alced.* p. 71, pl. 21 (1869); *Reichen. J. f. O.* 1877, p. 20; *Bocage, Orn. Angola*, pp. 98, 537 (1881); *Sharpe & Bouvier, Bull. Soc. Zool. France*, ii. p. 474 (1877).

Adult (type of species). Head, cheeks, and ear-coverts dark slaty grey, almost black; on a few feathers of the crest a tiny white spot; back and scapulars dark slaty grey unspotted, a few of the latter having a tiny white spot at the tip of the feather; lower part of back slaty grey with tiny spots of white; wing-coverts slaty grey, the lesser ones being marked with a heart-shaped spot; tail blackish grey, with small white bars and markings; primaries blackish, the inner web white at the base and having a few bands of white along the web, the primaries with a deep black gloss, the secondaries washed externally with slaty grey and studded with small spots of white; a line of white feathers marked with longitudinal black spots extending from the base of the lower mandible to the sides of the neck; below this a line of black feathers from the base of the lower mandible bordering the throat, which is pure white; upper part of the breast rich chestnut; lower part of the breast, entire abdomen, sides of the body, and under wing- and tail-coverts grey, closely banded with white: bill black; feet olive-brown: "bill black; feet grey; iris dark brown" (*Fulkenstein*). Total length 14·5 inches, bill from front 3, from gape 4, wing 7·3, tail 4·2, tarsus 0·35, middle toe 0·9, hind toe 0·3.

Hab. From Gaboon to the Congo.

a. ♂ ad. sk.	[Gaboon.]	Purchased.
b. ♂ ad. sk.	Gaboon (*F. B. Walker*: *Sharpe Coll.*).	Tweeddale Coll. (Type of species.)
c. ♀ ad. sk.	Gaboon.	Sharpe Coll.
d. ♀ ad. sk.	River Ogowé (*Marche & De Compiègne*).	M. Bouvier.
e. ♂ ad. sk.	River Ogowé.	H. T. Ansell, Esq. [P.].
f. ♂ ad. sk.	River Ogowé (*Ansell*).	Shelley Coll.
g. Ad. st.	River Congo (*Tucker*).	The Admiralty [P.].

4. Ceryle torquata.

Le Martin-pescheur hupé du Mexique, *Briss. Orn.* iv. p. 518, pl. 41. fig. 1 (1760).

Alcedo torquata, *Linn. Syst. Nat.* i. p. 180 (1766); *Gm. Syst. Nat.* i. p. 452 (1788); *Vieill. N. Dict. d'Hist. Nat.* xix. p. 399 (1818); *Cab. in Schomb. Reis. Guian.* iii. p. 703 (1848); *Schl. Mus. Pays-Bas*, Alced. p. 4 (1863); *id. Revue, Alced.* p. 1 (1874).

Martin-pêcheur huppé du Mexique, *Daubent. Pl. Enl.* viii. pl. 284.

L'Alatli, *Buff. Hist. Nat. Ois.* vii. p. 208 (1780).

Cinereous Kingfisher, *Lath. Gen. Syn.* i. pt. 2, p. 636 (1782).

Martin pescador celeste, *Azara, Apunt.* iii. p. 383 (1802).

Martin pescador celeste obscuro, *Azara, t. c.* p. 385 (1802).

Alcedo cyanea (*nec Less.*), *Vieill. N. Dict. d'Hist. Nat.* xix. p. 401 (1818); *Neuwied, Bietr. Naturg. Bras.* iv. p. 5 (1832).

Alcedo cinerea, *Bonn. et Vieill. Enc. Méth.* i. p. 286 (1823).

Ceryle torquata, *Boie, Isis*, 1828, p. 316; *Bp. P. Z. S.* 1837, p. 108; *Hartl. Ind. Azara*, p. 26 (1847); *Gray, Gen. B.* i. p. 79 (1847); *id. List Fissir. Brit. Mus.* p. 61 (1848); *Bp. Consp.* i. p. 160 (1850); *Cass. Cat. Halc.* p. 2 (1852); *Scl. P. Z. S.* 1856, p. 139; *id. & Salv. Ibis*, 1859, p. 131; *Moore, P. Z. S.* 1859, p. 53; *Cass. Proc. Philad. Acad.* 1860, p. 133; *Scl. P. Z. S.* 1860, p. 284; *Léot. Ois. Trinid.* p. 106 (1866); *Scl. & Salv. P. Z. S.* 1866, p. 191, 1867, pp. 280, 581, 978; *Gray, Hand-l. B.* i. p. 97, no. 1186 (1869); *Sharpe, Monogr. Alced.* p. 73, pl. 22 (1870); *Scl. & Salv. P. Z. S.* 1870, p. 837; *Pelz. Orn. Bras.* p. 23 (1871); *Wyatt, Ibis*, 1871, p. 373; *Scl. & Salv. Nomencl. Av. Neotr.* p. 103 (1873); *iid. P. Z. S.* 1873, p. 292; *Lee, Ibis*, 1873, p. 133; *Lawr. Mem. Bost. Soc. N. H.* ii. p. 289 (1874); *id. Bull. U.S. Nat. Mus.* i. p. 30 (1875); *Tacz. P. Z. S.* 1877, p. 328; *Scl. & Salv. P. Z. S.* 1879, p. 534; *iid. t. c.* p. 632; *Salv. & Godm. Ibis*, 1880, p. 170; *Nutting, Proc. U.S. Nat. Mus.* v. p. 399 (1882); *id. op. cit.* vi. pp. 375, 386, 394 (1883); *Salv. P. Z. S.* 1883, p. 426; *Barrows, Auk*, i. p. 26 (1884); *Berl. J. f. O.* 1884, p. 318; *id. und Jhering, Zeitschr. ges. Orn.* ii. p. 160 (1885); *Salvin, Ibis*, 1886, p. 60; *Ridgw. Proc. U.S. Nat. Mus.* ix. p. 160 (1886); *Tacz. Orn. Pérou*, iii. p. 100 (1886); *Berl. J. f. O.* 1887, pp. 22, 121; *Ridgw. Proc. U.S. Nat. Mus.* x. p. 591 (1887); *With. Ibis*, 1888, p. 468; *Scl. & Hudson, Argent. Orn.* ii. p. 26 (1889).

Megaceryle torquata, *Reichenb. Handb., Alced.* p. 24, Taf. 411. fig. 3106 (1851); *Burm. Th. Bras.* ii. p. 404 (1856); *id. La-Plata Reis.* ii. p. 446 (1861).

Streptoceryle torquata, *Bp. Consp. Volucr. Anis.* p. 4. (1854); *Cab. & Heine, Mus. Hein.* ii. p. 150 (1860); *Cab. J. f. O.* 1862, p. 161.

Megaceryle cæsia, *Reichenb. Handb., Alced.* p. 24, Taf. 411. fig. 3107 (1851); *Burm. Th. Bras.* ii. p. 405, note (1856).

Chloroceryle torquata, *Scl. Cat. Amer. B.* p. 264 (1862).

Adult male. General colour above slaty blue, with a narrow black stripe down the centre of each feather, more distinct on the head, which is strongly crested; quills blackish, the inner web pure white at the base, extending for half the length of the feather, the secondaries tipped with white and irregularly barred with black on the inner web, the outer web slaty blue externally, with here and there a few little spots of white; tail-feathers blackish, the middle feathers slaty blue with only the centre black, the others edged externally with slaty blue, and all more or less spotted and barred with white; throat, cheeks, and sides of neck pure white, as well as a collar

round the hind neck; breast deep rich chestnut; under wing- and tail-coverts with the lower part of the abdomen white: "bill black, the lower mandible and base of upper one reddish grey; feet yellowish grey; claws black; iris dark brown" (*Jelski*). Total length 16·5 inches, culmen 3, wing 7·7, tail 4·5, tarsus 0·4.

Adult female. Similar to the male, but having a broad slaty-blue band across the chest, with a narrow white band below it; and with the whole of the abdomen and under wing- and tail-coverts rich chestnut. Total length 16·2 inches, culmen 3·6, wing 7·8, tail 5, tarsus 0·55.

Young female. Very similar to the old female, but the bill very much shorter; the stripes on the head very broad and dark, so that little of the grey edging is seen, the forehead especially being nearly black; wing-coverts more narrowly edged with grey than in the old bird, so that the black bases to the feathers are more conspicuous, the whole of the coverts being also tinged with rusty brown; under wing-coverts whitish tinged with rufous, and some of the lower ones barred with slaty grey; rest of the under surface as in the old female, excepting the breast-band, which is dull grey tinged with reddish, the shaft of each feather being very plainly developed.

Young male. Similar to the young female, but having the whole of the outer edge of the wing-coverts and quills profusely marked with good-sized spots of white; under wing-coverts as in the young female, as also the breast-band, which, however, is more distinctly tinged with rufous in the centre, remaining grey on each side,

Hab. The whole of Central America and the greater part of South America.

a, b. ♀ ad. sk.	Nuevo Leon, Mexico, April, May (*F. B. Armstrong*).	Salvin-Godman Coll.
c–g. ♂ ad.; *h–l.* ♀ ad. sk.	Tampico, Feb., March, June (*W. B. Richardson*).	Salvin-Godman Coll.
m. ♂ ad. sk.	Real del Monte.	J. Philipps, Esq. [P.].
n. ♂ ad. sk.	Vega del Casadero, near Vera Cruz, Dec. (*M. Trujillo*).	Salvin-Godman Coll.
o, p. ♂ ♀ ad. sk.	Santa Ana, Jalapa, Nov. (*Ferrari-Perez*).	Salvin-Godman Coll.
q. ♀ juv. sk.	Teapa, Feb. (*Mrs. D. W. Smith*).	Salvin-Godman Coll.
r. ♀ ad. sk.	Presidio, Mazatlan, Jan. 25 (*A. Forrer*).	Salvin-Godman Coll.
s, t. ♂ ♀ ad. sk.	San Blas, Tepic, May (*W. B. Richardson*).	Salvin-Godman Coll.
u. ♀ ad. sk.	Tehuantepec, Feb. 28 (*W. B. R.*)	Salvin-Godman Coll.
v, w. ♂ ♀ imm. sk.	Tonala, Chiapas, Feb. (*F. Sumichrast*).	Salvin-Godman Coll.
x. ♂ ad. sk.	Lanquin, Guatemala, March (*O. Salvin*).	Salvin-Godman Coll.
y, z. ♂ ad.; *a'.* ♀ ad. sk.	Cayo, Western British Honduras, Dec., April, May (*F. Blancaneaux*).	Salvin-Godman Coll.
a'. ♂ ad. sk.	Belize (*F. Blancaneaux*).	Salvin-Godman Coll.

c', *d'*. ♂ ad. et imm. sk.	Belize River (*O. S.*).	Salvin-Godman Coll.
e'. ♀ ad. sk.	Peje, Costa Rica (*J. Carmiol*).	Salvin-Godman Coll.
f'. ♀ ad. sk.	Gulf of Nicoya, July (*Sir E. Belcher*).	Gould Coll.
g'. ♂ ad. sk.	Lion Hill Station, Panama (*J. McLeannan*).	Salvin-Godman Coll.
h'. ♀ ad. sk.	Chepo, Panama (*E. Arcé*).	Salvin-Godman Coll.
i'. ♂ ad. sk.	Bogota (*Sharpe Coll.*).	Tweeddale Coll.
k'. ♀ juv. sk.	Bogota.	Salvin-Godman Coll.
l'. ♀ imm. sk.	Santa Marta, Colombia, April (*F. Simons*).	Salvin-Godman Coll.
m', *n'*. ♂ ad. sk.	Gulf of Guayaquil.	Capt. Kellett & Lieut. Wood [P.].
o'. ♂ ad. sk.	Babahoyo, Ecuador, June (*L. Fraser* : *Sharpe Coll.*).	Tweeddale Coll.
p'. ♀ imm. sk.	Sarayacu, Ecuador (*C. Buckley*).	Salvin-Godman Coll.
q', *r'*. ♀ ad. et juv. sk.	Surinam, May (*C. Bartlett* : *Sharpe Coll.*).	Tweeddale Coll.
s'. ♂ ad. ; *t'*. ♀ imm. sk.	British Guiana.	Sir R. Schomburgk [P.]
u'. ♂ ad. sk.	River Atapurow, British Guiana, Jan. 26, *H. Whitely*).	Salvin-Godman Coll.
v', *w'*. ♀ ad. et ♂ imm. sk.	Cayenne (*Sharpe Coll.*)	Tweeddale Coll.
x'. ♀ ad. sk.	Para (*A. R. Wallace*).	Sclater Coll.
y'. [♀] ad. sk.	Island of Mexiana (*A. R. Wallace*).	Salvin-Godman Coll.
z'. ♀ imm. sk.	Rio Tocantins, Sept. (*A. R. Wallace*).	Salvin-Godman Coll.
a''. ♂ ad. sk.	Maranham (*R. Wendeborn*).	Salvin-Godman Coll.
b''. ♀ ad. sk.	Lower Ucayali, May 25 (*E. Bartlett*).	Tweeddale Coll.
c'', *d''*. ♂ ad. et imm. sk.	Pebas, Eastern Peru, Feb. (*J. Hauxwell*).	Salvin-Godman Coll.
e''. ♂ ad. sk.	Pernambuco (*Sharpe Coll.*).	Tweeddale Coll.
f''. ♂ ad. sk.	Bahia (*Dr. Wucherer*).	Salvin-Godman Coll.
g''. ♂ imm. sk.	Bahia (*Sharpe Coll.*).	Tweeddale Coll.
h''. ♀ imm. sk.	Pelotas, Rio Grande do Sul (*Joyner*).	Salvin-Godman Coll.
i''. ♀ ad. st.	Delta of the Rio Parana.	A. M. Montanaro, Esq. [P.].
k'', *l''*. ♀ ad. sk.	Uruguay, Aug.	Alan Peel, Esq. [C.].

Subsp. *a*. Ceryle stellata.

Alcedo stellata, *Meyen, Nova Acta*, p. 93, Taf. 14 (1834); *Tsch. & Cab. Faun. Peruan.* p. 254 (1855); *Burm. Th. Bras.* ii. p. 405, note (1856).

Alcedo torquata (*nec* L.), *Bridges, P. Z. S.* 1841, p. 84; *Tsch. Arch. f. Naturg.* x. p. 299 (1844); *Gay, Faun. Chil., Zool.* p. 270 (1847).

Ceryle torquata (*nec* L.), *Gould in Darwin's Voy.* 'Beagle,' *Birds*, p. 42 (1841); *Fras. P. Z. S.* 1843, p. 110.

Megaceryle stellata, *Reichenb. Handb., Alced.* p. 24, pl. 409 B. fig. 3487 (1851).

Ceryle stellata, *Licht. Nomencl. Av.* p. 67 (1854); *Pelz. Reis. Novara, Vog.* p. 50 (1865); *Scl. P. Z. S.* 1867, pp. 327, 338; *id. & Salv. P. Z. S.* 1868, p. 187, 1869, p. 283; *Gray, Hand-l. B.* i. p. 97.

no. 1188 (1869); *Sharpe, Monogr. Alced.* p. 77 (1870); *Scl. & Salv. Nomencl. Av. Neotr.* p. 103 (1873); *iid. P. Z. S.* 1878, p. 434; *iid. Rep. Voy. 'Challenger,'* ii. *Birds*, p. 104 (1880); *Sharpe, P. Z. S.* 1881, p. 9; *Allen, Bull. Amer. Mus. Nat. Hist.* ii. p. 101 (1889).

Streptoceryle stellata, *Cab. & Heine, Mus. Hein.* Th. ii. p. 151 (1860).

Chloroceryle stellata, *Scl. Cat. Amer. B.* p. 264 (1882).

Adult. Above slaty blue, the feathers of the crest marked longitudinally with broad black shaft-stripes; back also marked with dark stripes and profusely spotted with white; quills and tail black, externally margined with slaty blue and banded with white; throat and sides of neck white, extending backwards and forming a nuchal collar; upper part of the breast slaty blue, with rufous markings on some of the feathers; below this slaty band a narrow one of white; rest of the under surface of the body rufous, with numerous grey and white barrings on the lower abdomen, flanks, and under tail-coverts: bill and feet blackish. Total length 15·5 inches, culmen 2·15, wing 7·3, tail 4·3, tarsus 0·4.

Hab. Chili, Bolivia, and Peru.

a. ♀ imm. st.	South America.	Lieut. Maw [P.].
b. ♀ imm. sk.	South America.	Purchased.
c. ♂ ad. sk.	South America (*Sharpe Coll.*).	Tweeddale Coll.
d. ♂ ad.; *e*, *f*. ♀ ad. sk.	Chili.	R. B. Sharpe, Esq., LL.D. [P.].
g. ♀ ad. sk.	Chili (*E. C. Reed*).	Salvin-Godman Coll.
h. ♂ imm. sk.	Chili.	Sclater Coll.
i. ♀ imm. sk.	Rimac, E. Peru, Sept. (*A. H. Markham*).	Salvin-Godman Coll.
k. Ad. sk.	Tom Bay, Straits of Magellan, Jan. 23 (*Dr. Coppinger*).	Salvin-Godman Coll.
l. ♀ ad. sk.	Cockle Cove, Feb. 7.	H.M.S. 'Alert.'
m. ♀ ad. sk.	Latitude Bay, Jan. 13 (*Dr. Coppinger*).	Tweeddale Coll.
n. ♂ ad. sk.	Cove Harbour, Messier Channel.	Voy. H.M.S. 'Challenger.'
o. ♂ ad. sk.	Port Otway, Dec. 31.	Voy. H.M.S. 'Challenger.'
p. ♂ ad. sk.	Gray Harbour.	Voy. H.M.S. 'Challenger.'
q. Sternum.	Tom Bay, Straits of Magellan.	H.M.S. 'Alert.'

Subsp. β. Ceryle stictipennis.

Ceryle torquata (*nec L.*), *Lawr. Proc. U.S. Nat. Mus.* i. pp. 459, 487 (1879); *Cory, B. W. Ind.* p. 19 (1885).

Ceryle stictipennis, *Lawr. Proc. U.S. Nat. Mus.* viii. p. 623 (1865); *Cory, Auk*, iii. p. 367 (1886), iv. p. 96 (1887); *id. B. W. Ind.* 2nd ed. p. 162 (1889).

Adult male. Similar to *C. torquata*, but differing, according to Mr. Cory (*l. c.*), in the white spotting of the wings and back, and the rufous marking of the under wing-coverts. Total length 17½ inches, wing 8, tail 5¼, bill 3.

Hab. Island of Guadeloupe, West Indies.

5. Ceryle alcyon.

The Kingfisher, *Catesby, N. H. Carol.* i. p. 69, pl. 69 (1731).

The American Kingfisher, *Edwards, Nat. Hist. B.* iii. p. 115, pl. 115 (1750).

Le Martin-pescheur hupé de la Caroline, *Briss. Orn.* iv. p. 512 (1760, *ex Catesby*).

Martin-pescheur hupé de Saint Domingue, *Briss. t. c.* p. 515 (1760, *ex Edwards*).

Alcedo alcyon, *Linn. S. N.* i. p. 180 (1766); *Gm. S. N.* i. p. 451 (1788); *Wilson, Amer. Orn.* iii. p. 59, pl. 23. fig. 1 (1811); *Vieill. N. Dict. d'Hist. Nat.* xix. p. 406 (1818); *Audub. B. Amer.* pl. 77; *Swains. Faun. Bor.-Amer., Birds,* p. 339 (1831); *Audub. Orn. Biogr.* i. p. 394 (1831); *Jard. ed. Wilson's Amer. Orn.* i. p. 348, pl. 23. fig. 1 (1832); *Audub. B. Amer.* iv. p. 205, pl. 255 (1842); *Giraud, B. Long Isl.* p. 172 (1844); *Thomps. B. Irel.* i. p. 373 (1849); *Schl. Mus. Pays-Bas,* Alced. p. 4 (1863); *id. op. cit. Revue,* p. 2 (1874); *Bryant, Proc. Bost. Soc. N. H.* x. p. 255 (1866); *Sundev. Œfv. K. Vet.-Akad. Forh. Stockh.* 1869, pp. 585, 600.

Martin-pêcheur hupé de la Louisiane, *Daubent. Pl. Enl.* viii. pl. 715.

Martin-pêcheur hupé de Saint Domingue, *Daubent. Pl. Enl.* viii. pl. 593.

Le Jaguacati, *Buff. Hist. Nat.* vii. p. 210 (1780).

Belted Kingfisher, *Lath. Gen. Syn.* i. pt. 2, p. 637 (1782); *Penn. Arctic Zool.* ii. p. 279 (1785); *Yarr. Brit. B.* (2) ii. p. 236 (1858).

Alcedo guacu, *Vieill. N. Dict. d'Hist. Nat.* xix. p. 406 (1818).

Alcedo jaguacati, *Dumont, Dict. Sci. Nat.* i. p. 455 (1816).

Ceryle alcyon, *Boie, Isis,* 1828, p. 316; *Gray, Gen. B.* i. p. 82 (1847); *id. List Fissir. Brit. Mus.* p. 62 (1848); *Gosse, B. Jamaica,* p. 81 (1847); *Bp. Consp.* i. p. 160 (1850); *Cass. Cat. Halc. Philad. Acad.* p. 2 (1852); *id. B. Calif.* p. 254 (1856); *Sallé, P. Z. S.* 1857, p. 233; *Baird, B. N. Amer.* i. p. 158 (1859); *A. & E. Newt. Ibis,* 1859, p. 67; *Scl. & Salv. t. c.* p. 131; *Bryant, Proc. Bost. Soc. N. H.* vii. p. 108 (1859); *Brewer, t. c.* p. 306; *Scl. P. Z. S.* 1859, p. 236; *Taylor, Ibis,* 1860, p. 116; *Scl. P. Z. S.* 1860, p. 252, 1861, p. 77; *Coues, Proc. Philad. Acad.* 1861, p. 217; *Turnb. B. East Penns.* p. 17 (1863); *Hayden, Trans. Amer. Phil. Soc.* xii. p. 157 (1863); *Samuels, Orn. New Engl.* p. 125 (1867); *Lawr. Ann. Lyc. N. Y.* ix. p. 118 (1868); *Sharpe, Monogr. Alced.* p. 79, pl. 23 (1868); *Gray, Hand-l. B.* i. p. 97, no. 1187 (1869); *Dall & Bann. Tr. Chicago Acad.* i. p. 275 (1869); *Cooper, B. Calif.* p. 337 (1870); *Salvin, Ibis,* 1872, p. 321; *Coues, Key N. Amer. B.* p. 188 (1872); *Scl. P. Z. S.* 1872, p. 652; *Harting, Handb. Brit. B.* p. 124 (1872); *Scl. & Salv. Nomencl. Av. Neotr.* p. 103 (1873); *Yarrow & Hensh. Rep.* 100*th Merid., Orn.* p. 47 (1874); *Coues, B. N.-West,* p. 273 (1874); *Lawr. Mem. Bost. Soc. N. H.* ii. p. 289 (1874); *Baird, Brewer, & Ridgw. Hist. N. Amer. B.* ii. p. 392, pl. 45. fig. 6 (1874); *Gundl. J. f. O.* 1874, pp. 145, 312; *Hensh. Rep. Zool. Expl.* 100*th Merid.* p. 366 (1875); *Gundl. Orn. Cuba,* p. 111 (1876); *Lawr. Bull. U. S. Nat. Mus.* iv. p. 30 (1876); *Maynard, B. East. N. Amer.* p. 194 (1878); *Lawr. Proc. U. S. Nat. Mus.* i. pp. 62, 193 (1878); *id. t. c.* pp. 359, 450, 458 (1879); *Belding, t. c.* pp. 432, 487 (1879); *Gundl. J. f. O.* 1878, pp. 160, 180; *Sennett, Bull. U.S. Geol. Surv.* iv. p. 36 (1878); *Coues, t. c.* p. 615; *Scl. P. Z. S.* 1879, p. 765; *Cory, B. Bahamas,* p. 115 (1880); *Allen, Bull. Nutt. Orn. Club,* v. p. 109 (1880); *A. & E. Newt. Handb. Jamaica,* p. 109 (1881); *Grisdale, Ibis,* 1882, pp. 486, 490; *Coues, Check-l. N.*

Amer. B. p. 75 (1882); *Salv. P. Z. S.* 1883, p. 426; *B. O. U. List Br. B.* p. 81 (1883); *Stearns, Proc. U.S. Nat. Mus.* v. p. 118 (1883); *Merrill, t. c.* p. 142; *Belding, t. c.* p. 543; *Nutting, op. cit.* vi. pp. 375, 394 (1883); *Nelson, Cruise 'Corwin,'* p. 75 (1883); *Hartl. J. f. O.* 1883, p. 265; *Stearns, New Engl. Bird-Life*, ii. p. 62 (1883); *Cory, B. Haiti*, p. 103 (1884); *Coues, Key N. Amer. B.* 2nd ed. p. 470 (1884); *Agersb. Auk*, ii. p. 283 (1885); *Batchelder, t. c.* p. 238; *Hayward, t. c.* p. 311; *Turner, Proc. U.S. Nat. Mus.* viii. p. 242 (1885); *Henshaw, Auk*, iii. p. 79 (1886); *Everm. t. c.* p. 93; *Brewst. t. c.* p. 104; *Seton, t. c.* p. 155; *Fox, t. c.* p. 319; *Cory, t. c.* p. 368; *Turner, Contr. N. H. Alaska*, p. 165 (1886); *Ridgw. Proc. U.S. Nat. Mus.* ix. p. 160 (1886); *Wells, t. c.* p. 620; *A. O. U. Check-l. N. Amer. B.* p. 269 (1886); *Ridgw. Man. N. Amer. B.* p. 297 (1887); *Towns. Auk*, iv. p. 12 (1887); *Dwight, t. c.* p. 16; *Langdon, t. c.* p. 130; *Lloyd, t. c.* p. 190; *Blake, t. c.* p. 324; *Beckh. t. c.* p. 302; *Nelson, Nat. Hist. Coll. Alaska, Birds*, p. 155 (1887); *Towns. Proc. U.S. Nat. Mus.* x. p. 159 (1887); *Richm. Auk*, v. p. 21 (1888); *Faxon & Allen, t. c.* pp. 149, 151, 153; *Brewst. t. c.* p. 251; *Chapm. t. c.* p. 271; *Warren, B. Pennsylv.* p. 121 (1888); *Everm. Auk*, vi. p. 22 (1889); *Faxon, t. c.* p. 44; *Allen, t. c.* p. 76; *Britten & Cox, t. c.* p. 117; *Dutcher, t. c.* p. 129; *Bishop, t. c.* p. 147; *Hasbr. t. c.* p. 238; *Scott, t. c.* p. 250; *Pindon, t. c.* p. 313; *Cory, B. W. Ind.* p. 163 (1889); *Salv. Ibis*, 1889, p. 371, 1890, p. 88; *Feilden, t. c.* p. 487.

Ispida alcyon, *Swains. Classif. B.* ii. p. 336 (1837).

Megaceryle alcyon, *Reichenb. Handb., Alced.* p. 25, Taf. 412. figs. 3108–3109 (1851).

Megaceryle domingensis, *Reichenb. t. c.* p. 24, Taf. 410. fig. 3105 (1851).

Streptoceryle alcyon, *Bp. Consp. Volucr. Anis.* p. 10 (1854); *Cab. & Heine, Mus. Hein.* Th. ii. p. 151 (1860); *Cab. J. f. O.* 1862, p. 162.

Chloroceryle alcyon, *Scl. Cat. Amer. B.* p. 264 (1862).

Adult male. Above slaty blue, the head crested, each feather having a black line down the centre; a spot in front of the eye and a collar round the back of the neck white; wing-coverts spotted with white; wing-feathers black, tipped with white, the basal half of the inner web of the primaries white, the outer web being marked with the same colour, the inner web of the secondaries marked with white, as also the outer web, which is broadly edged with slaty blue; tail slaty blue, irregularly banded and spotted with white; the entire under surface white, with the exception of a broad band of slaty blue on the upper part of the breast and the flanks, which are marked with slaty blue: beak black; feet dark blue-grey; eyes dark brown. Total length 12 inches, of bill from front 2, from gape 2·5, wing 6·4, tail 3·2, tarsus 0·3, middle toe 0·7, hind toe 0·2.

Adult female. Similar to the male, but distinguished by having a second band on the breast, below the grey præpectoral band. This second band is bright ferruginous, like the flanks. Total length 11·5 inches, culmen 2·2, wing 6·4, tail 3·6, tarsus 0·4.

Young male. At first resembles the old female in having rufous flanks, but the sex can generally be distinguished by an admixture of grey feathers: the præpectoral band also is strongly washed

with rufous, and the second rufous band is much narrower than in the adult female. It may always be recognized by its white axillaries.

The *young female* resembles the young male, but has more rufous on the præpectoral band, and has the flanks also entirely rufous like the second band across the breast. The latter is not so broad as in the adult female, but the young female can always be distinguished from the young male by its rufous axillaries.

The adult plumage seems to take a considerable time to acquire, and this is particularly the case with the females, which have the præpectoral band generally washed or mixed with rufous. Female specimens with an absolutely grey band on the breast are rare, but the males seem to gain their fully adult plumage in the second year.

Hab. North America generally, wintering throughout Central America and the Greater and Lesser Antilles.

a. Ad. st.	N. America.	Dr. Ridgway [P.].
b. Ad. st.	N. America.	Hardwicke Coll.
c. [♀] ad. sk.	Alaska, Aug. (*E. W. Nelson*: *Henshaw Coll.*).	Salvin-Godman Coll.
d. ♀ ad. sk.	Esquimault (*A. H. Markham*).	Salvin-Godman Coll.
e. ♂ ad.; *f*, *g*, *h*. ♀ ad. sk.	British Columbia.	J. K. Lord, Esq. [P.].
i, *k*. ♀ ad. sk.	Saturna Island.	Dr. Lyall [P.].
l. ♀ ad. sk.	Vancouver Island.	Old Coll.
m, *n*. ♂ ad. et juv. sk.	Straits of S. Juan.	Capt. Kellett & Lieut. Wood [P.].
o, *p*. ♂ ♀ ad. sk.	Fort Simpson, June.	B. R. Ross, Esq. [P.].
q. ♂ ad. sk.	Lake of Woods (*G. Dawson*).	N. A. Boundary Comm.
r, *s*. ♀ ad. sk.	49th Parallel (*G. Dawson*).	N. A. Boundary Comm.
t. ♂ imm. sk.	Canada (*Sharpe Coll.*).	Tweeddale Coll.
u. ♀ ad. sk.	Canada (*Bush*).	Tweeddale Coll.
v. ♀ ad. sk.	Canada West.	Tweeddale Coll.
w, *x*. ♂ ♀ ad. sk.	Canada (*C. Shelley*).	Shelley Coll.
y. ♂ ad. sk.	Musquash, New Brunswick (*H. E. Dresser*: *Sharpe Coll.*).	Shelley Coll.
z. ♂ ad. sk.	Nova Scotia.	Capt. Savile Reid [P.].
a'. ♂ ad.; *b'*–*h'*. ♀ ad. sk.	Lyons Falls, New York, June to Aug. (*A. J. Dayan*: *Henshaw Coll.*).	Salvin-Godman Coll.
i'. ♂ ad. sk.	Locust Grove, April 26 (*C. H. Merriam*: *Henshaw Coll.*).	Salvin-Godman Coll.
k'. ♂ ad. sk.	Albany, N. Y. (*J. A. Hurst*: *Sharpe Coll*).	Tweeddale Coll.
l'. Juv. sk.	Whiting Station, Indiana, June (*H. K. Coale*: *Henshaw Coll.*).	Salvin-Godman Coll.
m'. ♀ ad. sk.	Riverdale, Illinois, March (*W. E. Nelson*: *Henshaw Coll.*).	Salvin-Godman Coll.

n'. ♂ imm. sk.	Cook Co., Illinois, Sept. 28 (*Greene Smith*: *Henshaw Coll.*).	Salvin-Godman Coll.
o'. ♂ ad. sk.	Washington, D.C. (Sm. no. 25206).	Salvin-Godman Coll.
p', *q'*. ♂ ♀ ad. sk.	Washington, D.C., April (*H. W. Henshaw*).	Salvin-Godman Coll.
r'. ♀ ad. sk.	Quantico, Virginia, April 30 (*H. W. H.*).	Salvin-Godman Coll.
s'. ♂ ad. sk.	Florida.	W. B. Dismore, Esq. [P.].
t'. ♂ ad. sk.	Florida (*Henshaw Coll.*).	Salvin-Godman Coll.
u'. ♂ ad. sk.	Melbourne, Florida, Feb. 14 (*W. Hoxie*: *Henshaw Coll.*).	Salvin-Godman Coll.
v', *w'*. ♀ ad. et juv. sk.	Tarpon Springs, Florida, Aug., Oct. (*Scott Coll.*).	Salvin-Godman Coll.
x'–b''. ♂ ad.; *c''*. ♀ ad. sk.	Corpus Christi, Texas, Oct., Nov. (*F. B. Armstrong*).	Salvin-Godman Coll.
d''. ♀ ad. sk.	Hidalgo, Texas, April 8 (*F. B. Armstrong*).	Salvin-Godman Coll.
e''. ♂ ad. sk.	Santa Fé Mts., New Mexico, Sept. 22 (*H. W. Henshaw*).	Salvin-Godman Coll.
f''. ♀ ad. sk.	Carson, Nevada, May 4 (*W. E. Bryant*: *Henshaw Coll.*).	Salvin-Godman Coll.
g''. ♀ ad. sk.	Lower Geyser Basin, Washington Territory, Aug. 30 (*C. H. Merriam*).	Salvin-Godman Coll.
h''. ♂ ad. sk.	California.	Lord Walsingham [P.].
i''. ♂ ad. sk.	Napa, Calif. (*H. Herrick*: *Henshaw Coll.*).	Salvin-Godman Coll.
k''. ♀ ad. sk.	Fort Garland, Cal., Aug. 12 (*C. E. Aiken*: *Henshaw Coll.*).	Salvin-Godman Coll.
l''. ♂ ad. sk.	Rio de Ermitaño, Chihuahua, Dec. 17 (*W. Lloyd*).	Salvin-Godman Coll.
m''. ♀ ad. sk.	Mazatlan, Nov. 26 (*A. Forrer*).	Salvin-Godman Coll.
n''. ♀ ad. sk.	Zapotlan, Jalisco, Dec. 18 (*W. B. Richardson*).	Salvin-Godman Coll.
o''–r''. ♂ ad. sk.	Tampico, Feb. (*W. B. R.*).	Salvin-Godman Coll.
s''. ♀ ad. sk.	Vega del Casadero, Vera Cruz, Dec. (*M. Trujillo*).	Salvin-Godman Coll.
t''. ♂ imm. sk.	Orizaba, Nov. (*Ferrari-Perez*).	Salvin-Godman Coll.
u''. ♀ ad. sk.	Jalapa (*De Oca*).	Salvin-Godman Coll.
v''. ♂ ad. sk.	Progreso, N. Yucatan, Nov. (*C. J. E. Devis*).	Salvin-Godman Coll.
w'', *x''*. ♂ ad.; *y''*. ♀ ad. sk.	Dueñas, Guatemala (*O. Salvin*).	Salvin-Godman Coll.
z'', *a*^{3}, *b*^{3}. ♂ et juv.; *c*^{3}, *d*^{3}, *e*^{3}. ♀ ad. sk.	Cozumel Island (*G. F. Gaumer*).	Salvin-Godman Coll.
f^3, *g*^{3}. ♀ ad. sk.	Ruatan Island (*G. F. Gaumer*).	Salvin-Godman Coll.
h^3. ♂ ad. sk.	Honduras (*Sharpe Coll.*).	Tweeddale Coll.
i^3. ♀ ad. sk.	Costa Rica, May (*T. Cooper*).	Salvin-Godman Coll.
k^3. ♂ ad. sk.	Panama (*McLeannan*: *Sharpe Coll.*).	Tweeddale Coll.
l^3. ♂ ad. sk.	Santa Marta, U.S. Colombia.	Tweeddale Coll.

m^3. ♂ ad. sk.	Spanishtown, Jamaica (*W. W. Marsh*).	U.S. Nat. Museum [P.].
n^3. ♀ ad. sk.	Santa Lucia (*W. Semper*).	Sclater Coll.
o^3. ♀ ad. sk.	Montserrat (*Sturge*).	Sclater Coll.
p^3. Skeleton.	N. America.	R. B. Sharpe, Esq., LL.D. [P.].
q^3, r^3. Sterna.	Jamaica.	Philip Gosse, Esq. [P.].

6. Ceryle amazona.

Amazonian Kingfisher, *Lath. Gen. Syn. Suppl.* i. p. 116 (1787).

Alcedo amazona, *Lath. Ind. Orn.* i. p. 257 (1790); *Vieill. N. Dict. d'Hist. Nat.* xix. p. 399 (1818); *Neuwied, Beitr. Naturg. Bras.* iv. p. 12 (1832); *Hartl. Ind. Azara*, p. 26 (1847); *Cab. in Schomb. Reis. Guian.* iii. p. 704 (1848); *Tschudi & Cab. Faun. Peruan.* pp. 40, 254 (1855); *Schl. Mus. Pays-Bas*, Alced. p. 5 (1863); *id. op. cit. Revue*, p. 2 (1874).

Martin-pescador obscuro dorado, *Azara, Apunt.* iii. p. 307 (1802).

Martin-pescador garganta roxa, *Azara, t. c.* p. 388.

Alcedo rubescens, *Vieill. N. Dict. d'Hist. Nat.* xix. p. 408 (1818).

Alcedo vestita, *Dumont, Dict. Sci. Nat.* xxix. p. 272 (1823); *Pucher. Rev. et Mag. de Zool.* 1853, p. 386; *Hartl. J. f. O.* 1855, p. 423.

Ceryle amazona, *Boie, Isis*, 1828, p. 316; *Gray, Gen. B.* i. p. 82 (1847); *id. List Fissir. Brit. Mus.* p. 61 (1848); *Bp. Consp.* i. p. 160 (1850); *Cass. Cat. Halc. Philad. Mus.* p. 3 (1852); *Scl. P. Z. S.* 1855, p. 136; *Moore, P. Z. S.* 1859, p. 53; *Cass. Proc. Philad. Acad.* 1860, p. 133; *Salvin, Ibis*, 1860, p. 155; *Scl. & Salv. P. Z. S.* 1864, p. 363, 1866, p. 192, 1867, pp. 279, 581, 978; *Salv. P. Z. S.* 1867, p. 152; *Léot. Ois. Trinid.* p. 111 (1866); *Gray, Hand-l. B.* i. p. 97, no. 1189 (1869); *Sharpe, Mongr. Alced.* p. 82, pl. 24 (1869); *Scl. & Salv. P. Z. S.* 1869, p. 252; *Salv. P. Z. S.* 1870, p. 201; *Scl. & Salv. t. c.* p. 781; *Pelz. Orn. Bras.* p. 23 (1871); *Wyatt, Ibis*, 1871, p. 373; *Scl. & Salv. Nomencl. Av. Neotr.* p. 103 (1873); *iid. P. Z. S.* 1873, p. 292; *Lee, Ibis*, 1873, p. 113; *Lawr. Mem. Bost. Soc. N. H.* ii. p. 290 (1874); *Scl. & Salv. P. Z. S.* 1875, p. 237; *Lawr. Bull. U. S. Nat. Mus.* pt. 4, p. 30 (1875); *Scl. & Salv. P. Z. S.* 1879, pp. 534, 632; *White, P. Z. S.* 1883, p. 40; *Bouc. t. c.* p. 453; *Nutting, Proc. U.S. Nat. Mus.* vi. p. 394 (1883); *Barrows, Auk*, i. p. 26 (1884); *Berl. J. f. O.* 1884, p. 318; *id. & Jhering, Zeitsch. ges. Orn.* ii. p. 160 (1885); *Ridgw. Proc. U.S. Nat. Mus.* ix. p. 161 (1886); *Tacz. Orn. Pérou*, iii. p. 102 (1886); *Salv. Ibis*, 1886, p. 60; *Berl. J. f. O.* 1887, pp. 22, 121; *Scl. & Hudson, Argent. Orn.* ii. p. 27 (1889); *Berl. J. f. O.* 1889, p. 308; *Allen, Bull. Amer. Mus. N. H.* ii. p. 101 (1889).

Chloroceryle amazona, *Reichenb. Handb., Alced.* p. 26, Taf. 412. ff. 3110–11 (1851); *Burm. Th. Bras.* ii. p. 405 (1856); *Cab. & Heine, Mus. Hein.* Th. ii. p. 148 (1860); *Burm. Reis. La-Plata*, ii. p. 446 (1861); *Scl. Cat. Amer. B.* p. 264 (1862); *Cab. J. f. O.* 1862, p. 161.

Chlorocery leleucosticta, *Reichenb. Handb., Alced.* p. 27, Taf. 414. ff. 3116–17 (1851); *Burm. Th. Bras.* ii. p. 406, note (1856).

Adult male. General colour above bronzy green; the head crested; a large band, commencing at the base of the bill and encircling the hind neck, white; quills blackish, externally like the back, the inner web white at the base and washed with bronzy-

green markings on the secondaries; tail-feathers bronzy green above, beneath blackish, the inner web of all but the middle ones spotted with white; a line of feathers from the base of the bill, extending on to the sides of the neck, bronzy green; throat white; a broad band across the chest bright rufous; abdomen and under wing- and tail-coverts white, the flanks streaked with bronzy green: "bill black; feet brown" (*J. Stolzmann*). Total length 12 inches, culmen 2·5, wing 5, tail 3, tarsus 0·25.

Adult female. Similar to the male, but wanting the red chest-band, which is replaced by an interrupted band of bronzy green. Total length 11·5 inches, culmen 2·6, wing 5·9, tail 3·4, tarsus 0·45.

Hab. Central America and the greater part of South America, excepting Patagonia and Chili.

a, *b*. ♂ ♀ ad. sk.	Presidio, Mazatlan, Jan., Feb. (*A. Forrer*).	Salvin-Godman Coll.
c. ♀ ad. sk.	San Blas, Tepic, May 8 (*W. B. Richardson*).	Salvin-Godman Coll.
d. ♂ ad. sk.	Teapa, Vera Cruz, Feb. (*Mrs. H. H. Smith*).	Salvin-Godman Coll.
e. ♂ ad. sk.	La Antigua, Vera Cruz, Sept. (*M. Trujillo*).	Salvin-Godman Coll.
f. ♀ ad. sk.	Vega del Casadero, Dec. (*M. T.*).	Salvin-Godman Coll.
g. ♀ ad. sk.	Santa Ana, Jalapa, Nov. (*Ferrari-Perez*).	Salvin-Godman Coll.
h. ♂ ad. sk.	Plan del Rio, Jalapa, Aug. (*F.-P.*).	Salvin-Godman Coll.
i, *k*. ♂ ad.; *l*, *m*. ♀ ad. sk.	Cayo, Western British Honduras, Dec. to March (*F. Blancaneaux*).	Salvin-Godman Coll.
n. ♀ ad. sk.	Guatemala (*Sharpe Coll.*).	Tweeddale Coll.
o. ♂ ad. sk.	Vera Paz, Guatemala (*O. Salvin*).	Salvin-Godman Coll.
p. ♀ ad. sk.	San Gerónimo, Vera Paz, Dec. 20 (*O. S.*).	Salvin-Godman Coll.
q. ♀ ad. sk.	Honduras (*Sharpe Coll.*).	Tweeddale Coll.
r, *s*. ♀ ad. sk.	Veragua (*Arcé*).	Salvin-Godman Coll.
t. ♀ ad. sk.	Panama (*J. McLeannan*).	Sclater Coll.
u. ♂ ad. sk.	Lion Hill, Panama (*J. McLeannan*).	Salvin-Godman Coll.
v. ♀ ad. sk.	Paraiso Station, Panama (*A. Hughes*).	Salvin-Godman Coll.
w. ♂ imm. sk.	Bogotá (*Sharpe Coll.*).	Tweeddale Coll.
x. ♀ ad. sk.	Sarayacu, Ecuador (*C. Buckley*).	Salvin-Godman Coll.
y, *z*. ♂ ♀ ad. sk.	Laguna de Valencia, Venezuela, Oct., Nov. (*A. Goering*).	Tweeddale Coll.
a'. ♀ ad. sk.	Demerara (*Sharpe Coll.*).	Tweeddale Coll.
b'. ♀ ad. sk.	British Guiana (*Sir R. Schomburgk*).	Zool. Soc.
c', *d'*. ♂ ♀ ad. sk.	Bartica Grove, British Guiana, Sept., Oct. (*H. Whitely*).	Salvin-Godman Coll.

e'. ♂ ad. sk.	Camacusa, British Guiana, May (*H. W.*).	Salvin-Godman Coll.
f'. ♂ imm.; *g'*. ♀ ad. sk.	Cayenne.	Sclater Coll.
h'. ♂ ad. sk.	Para (*A. R. Wallace*).	Sclater Coll.
i', *k'*. ♂ ♀ ad. sk.	Rio Tocantins, Sept. (*A. R. Wallace*).	Salvin-Godman Coll.
l'. ♀ ad. sk.	Santa Cruz, Huallaga River (*E. Bartlett*: *Sharpe Coll.*).	Tweeddale Coll.
m'. ♂ ad. sk.	Nauta, Dec. (*E. B.*: *Sharpe Coll.*).	Tweeddale Coll.
n', *o'*. ♂ ♀ ad. sk.	Pebas (*J. Hauxwell*).	Salvin-Godman Coll.
p'. ♀ ad. sk.	Chapada, Matto Grosso, Sept. 28 (*Mrs. H. H. Smith*).	Salvin-Godman Coll.
q'. ♂ ad. sk.	Pernambuco (*Sharpe Coll.*).	Tweeddale Coll.
r'. ♂ ad. sk.	Pernambuco (*Craven*).	Sclater Coll.
s'. ♂ ad. sk.	Novo Fribourgo (*J. Youds*).	Salvin-Godman Coll.
t', *u'*, *v'*. ♂ ad.; *w'*. ♀ ad. sk.	Brazil (*Sharpe Coll.*).	Tweeddale Coll.
x'. ♀ ad. sk.	Cosquin, Cordova, Argentine Republic, July 17 (*E. W. White*).	Salvin-Godman Coll.

7. Ceryle americana.

Le Martin-pescheur du Brésil, *Briss. Orn.* iv. p. 510 (1760).

Martin-pecheur vert et blanc de Cayenne, *Daubent. Pl. Enl.* viii. pl. 591.

Le Martin-pêcheur vert et blanc, *Buff. Hist. Nat. Ois.* vii. p. 216 (1780).

Le Gip-gip, *Buff. t. c.* p. 217 (1780).

White and Green Kingfisher, *Lath. Gen. Syn.* i. pt. 2, p. 641 (1782).

Brasilian Kingfisher, *Lath. t. c.* p. 641 (1782).

Alcedo americana, *Gm. Syst. Nat.* i. p. 451 (1788); *Neuwied, Beitr. Naturg. Bras.* iv. p. 17 (1832); *Hartl. Ind. Azara*, p. 26 (1847); *Cab. in Schomb. Reis. Guian.* iii. p. 704 (1848); *Schl. Mus. Pays-Bas*, Alced. p. 5 (1863); *id. op. cit. Revue*, p. 2 (1874).

Alcedo brasiliensis, *Gm. Syst. Nat.* i. p. 450 (1788); *Bonn. et Vieill. Enc. Méth.* i. p. 293 (1823).

Martin-pescador verde obscuro, *Azara, Apunt.* iii. p. 389 (1805).

Alcedo viridis, *Vieill. N. Dict.* xix. p. 413 (1818); *Bonn. et Vieill. Enc. Méth.* i. p. 397 (1823).

Ceryle americana, *Boie, Isis*, 1828, p. 316; *Gould in Darwin's Voy. 'Beagle,' Birds*, p. 42 (1841); *Gray, Gen. B.* i. p. 82 (1847); *id. List Fissir. Brit. Mus.* p. 60 (1848); *Bp. Consp.* i. p. 100 (1850); *Cass. Cat. Halc. Philad. Mus.* p. 5 (1852); *Scl. P. Z. S.* 1860, pp. 284, 296; *id. & Salv. P. Z. S.* 1862, p. 192, 1867, pp. 581, 978, 1868, p. 628; *Léot. Ois. Trinid.* p. 112 (1866); *Gray, Hand-l. B.* i. p. 97, no. 1190 (1869); *Sharpe, Monogr. Alced.* p. 89, pl. 26 (1870); *Hamilton, Ibis*, 1871, p. 306; *Wyatt, t. c.* p. 373; *Pelz. Orn. Bras.* p. 23 (1871); *Scl. & Salv. Nomencl. Av. Neotr.* p. 103 (1873); *iid. P. Z. S.* 1873, p. 293; *Lee, Ibis*, 1873, p. 133; *Durnf. Ibis*, 1877, p. 185; *Scl. & Salv. P. Z. S.* 1879, p. 632; *Salv. Ibis*, 1880, p. 361; *id. & Godm. t. c.* p. 174; *Forbes, Ibis*, 1881, p. 349; *Berlepsch, J. f. O.* 1884, p. 318; *id. & Ihering, Zeitschr. ges. Orn.* ii. p. 160 (1885); *Tacz. Orn. Pérou*, iii. p. 105 (1886); *Salv. Ibis*,

1886, p. 60; *Berl. J. f. O.* 1887, iii. pp. 23, 121; *Scl. & Hudson, Argent. Orn.* ii. p. 27 (1889); *Allen, Bull. Amer. Mus. N. Y.* ii. p. 101 (1889).

Chloroceryle americana, *Reichenb. Handb., Alced.* p. 27, Taf. 413. figs. 3112–13 (1851); *Burm. Th. Bras.* ii. p. 407 (1856); *Cab. & Heine, Mus. Hein.* Th. ii. p. 147 (1860); *Burm. Reis. La-Plata,* ii. p. 447 (1861); *Scl. Cat. Amer. B.* p. 265 (1862); *Barrows, Auk,* i. p. 26 (1884).

Chloroceryle chalcites, *Reichenb. Handb., Alced.* p. 28, Taf. 415. figs. 3120–21 (1851); *Burm. Th. Bras.* ii. p. 408, note (1856).

Ceryle cabanisi (*nec Tsch.*), *Scl. & Salv. P. Z. S.* 1879, p. 534; *Berlepsch & Taez. P. Z. S.* 1883, p. 571, 1885, p. 187.

Adult male. General colour above bronzy green; scapulars like the back, but with white bases, the inner or dorsal scapulars white, tipped with green; wing-coverts green like the back; bastard-wing, primary-coverts, and quills blackish, externally green; the quills with three bands of white, caused by spots of white on the outer webs; the inner webs more numerously notched or spotted with white, sometimes four, and even five, in number, these spots becoming merged together near the base of the inner web, so as to form a large white patch, which increases in size on the inner secondaries; two centre tail-feathers entirely green, the next pair with a few white spots on the inner web and showing a little white near the base; on all the other tail-feathers the white is more developed, and the green colour so restricted that it forms a broken band near the end of the feather with two white spots near the end of the inner web; crown of head, sides of face, and ear-coverts green like the head; the cheeks white, forming a broad band which extends backwards and forms a collar round the hind neck; throat also white, separated from the cheeks by a malar line of green feathers; lower throat, fore neck, and breast bright chestnut; abdomen white; flanks thickly spotted with bronzy-green ends to the feathers; the lower breast-feathers also green-tipped, so as to form a band which skirts the rufous of the breast on its lower aspect; under tail-coverts white, also spotted with green; under wing-coverts white, with dusky bases. Total length 6·5 inches, culmen 1·6, wing 3·2, tail 2·3, tarsus 0·35.

Adult female. Similar to the male above, but differing below; the throat, breast, and flanks ochreous buff, with a band of green across the upper breast; on the lower breast a second band of green-spotted feathers like the flanks, this second band not clearly defined like the upper one, but rather broken in the middle. Total length 6·5 inches, culmen 1·8, wing 3·1, tail 2·4, tarsus 0·35.

Young birds may be told by their duller colour, being more of an olive bronzy green, and by the minute fulvous spots on the wing-coverts and crown.

Hab. The greater part of South America from Colombia to Ecuador, Guiana, Amazonia, and Brazil.

a, b. ♂ ad. st.	South America.	Old Coll.
c. ♂ juv. sk.	South America.	Sclater Coll.

d, *e*. ♂ ♀ ad. sk.	[Chili.]	Gould Coll.
f. ♂ ad.; *g*. ♀ juv. sk.	Salta, June 28.	H. Durnford, Esq. [C.].
h. ♂ ad. sk.	Brazil.	Salvin-Godman Coll.
i. ♂ ad. sk.	Brazil (*Sharpe Coll.*).	Tweeddale Coll.
k. ♂ ad. sk.	Brazil.	M. Claussen [P.].
l. ♂ ad. sk.	Rio.	Sclater Coll.
m, *n*. ♂ ♀ ad. sk.	Rio (*Sharpe Coll.*).	Tweeddale Coll.
o, *p*. ♂ ♀ ad. sk.	Novo Fribourgo (*J. Youds*).	Salvin-Godman Coll.
q. ♂ ad. sk.	Pelotas, Rio Grande do Sul (*Joyner*).	Salvin-Godman Coll.
r. ♂ ad. sk.	Chapada, Matto Grosso, Jan. (*Mrs. H. H. Smith*).	Salvin-Godman Coll.
s, *t*. ♂ ad.; *u*. ♀ ad. sk.	Bahia (*Dr. Wucherer*).	Salvin-Godman Coll.
v, *w*. ♂ ♀ ad. sk.	Bahia (*Sharpe Coll.*).	Tweeddale Coll.
x. ♀ ad. sk.	Bahia.	Gould Coll.
y. ♀ ad. sk.	Pernambuco (*Sharpe Coll.*).	Tweeddale Coll.
z, *a'*. ♂ ♀ ad. sk.	Pernambuco (*W. A. Forbes*).	Salvin-Godman Coll.
b'. ♀ ad. sk.	Santa Cruz, Huallaga River (*E. Bartlett*: *Sharpe Coll.*).	Tweeddale Coll.
c'. ♂ ad. sk.	Pebas, March (*J. Hauxwell*).	Salvin-Godman Coll.
d'. ♀ ad. sk.	Rio Tocantins, Sept. (*A. R. Wallace*).	Salvin-Godman Coll.
e'. ♀ ad. sk.	North Bank of Amazons (*A. R. W.*).	Salvin-Godman Coll.
f'. ♂ ad. sk.	Para (*A. R. W.*).	Salvin-Godman Coll.
g'. ♂ ad. sk.	Para.	Sclater Coll.
h'. ♀ ad. sk.	Cayenne.	Sclater Coll.
i'. ♀ ad. sk.	Camacusa, British Guiana, May 3 (*H. Whitely*).	Salvin-Godman Coll.
k'. ♂ ad. sk.	Bartica Grove, Jan. 26 (*H. W.*).	Salvin-Godman Coll.
l'. ♂ ad. sk.	River Atapurow, Feb. 2 (*H. W.*).	Salvin-Godman Coll.
m'. ♂ ad. sk.	Demerara River, Oct. (*W. Barrow*: *Henshaw Coll.*).	Salvin-Godman Coll.
n'. ♂ ad. sk.	Demerara (*Sharpe Coll.*).	Tweeddale Coll.
o'. ♀ ad. sk.	San Esteban, Venezuela, June (*A. Goering*: *Sharpe Coll.*).	Tweeddale Coll.
p'. ♂ ad. sk.	Trinidad (*Sharpe Coll.*).	Tweeddale Coll.
q'. ♂ ad. sk.	Trinidad.	Gould Coll.
r'. ♀ ad. sk.	Tobago (*J. Kirk*).	Sclater Coll.
s'. ♂ ad. sk.	Tobago (*J. Kirk*: *Sharpe Coll.*).	Tweeddale Coll.
t'. ♂ ad. sk.	Minca, U.S. Colombia, 2000 feet (*F. Simons*).	Salvin-Godman Coll.
u'. ♀ ad. sk.	Santa Marta.	Tweeddale Coll.
v'. ♂ ad. sk.	Guayaquil.	Capt. Kellett & Lieut. Wood [P.].
w'. ♂ ad. sk.	Puna Island (*Villagomez*).	Salvin-Godman Coll.
x'. ♀ ad. sk.	Puna Island.	G. Barclay, Esq. [P.].
y'. ♂ ad. sk.	Napo, Ecuador.	Sclater Coll.
z'. ♀ ad. sk.	Santa Rita, Ecuador (*Villagomez*).	Salvin-Godman Coll.

Subsp. *a*. Ceryle cabanisi.

Alcedo cabanisi, *Tschudi, Faun. Peruan.* p. 253 (1846).

Ceryle cabanisi, *Gray, Gen. B.* i. p. 42 (1847); *Bp. Consp.* i. p. 160 (1850); *Sharpe, Monogr. Alced.* p. 87, pl. 25 (1868, pt.); *Gray, Hand-l. B.* i. p. 98, no. 1191 (1869); *Scl. & Salv. Nomencl. Av. Neotr.* p. 103 (1873, pt.); *Taez. P. Z. S.* 1877, p. 328, 1879, p. 240, 1880, p. 210; *Salv. P. Z. S.* 1883, p. 436.

Chloroceryle cabanisi, *Reichenb. Handb., Alced.* p. 27 (1851).

Adult male. Similar to *C. americana*, but with a slightly stouter bill (this difference scarcely perceptible), and having much broader white bars on the quills, and the under tail-coverts white, either unspotted or with only one or two green-tipped feathers: "bill and feet black; iris dark brown" (*J. Stolzmann*). Total length 8·5 inches, culmen 1·8, wing 3·45, tail 3, tarsus 0·3.

Adult female. Similar to the female of *C. americana*, but white below, less tinged with ochreous buff, and having white under tail-coverts and broader white bands on the quills. Total length 8·5 inches, culmen 1·8, wing 3·55, tail 2·8, tarsus 0·4.

Hab. Peru.

a. ♂ ad. sk.	Lima (*Prof. Nation*).	Sclater Coll.
b, c. ♂ ♀ ad. sk.	Rio Rimac, Sept. (*A. H. Markham*).	Salvin-Godman Coll.
d, e. ♂ ♀ ad. sk.	Tambo Valley, S.W. Peru, Oct. (*H. Whitely*).	Salvin-Godman Coll.
f, g. ♂ ♀ ad. sk.	Tambo Valley (*H. W.*: *Sharpe Coll.*).	Tweeddale Coll.

Subsp. *β*. Ceryle septentrionalis.

Ceryle americana (*nec Gm.*), *Sitgr. Rep. Expl. Zuni and Col. R.* p. 65 (1852); *Cass. B. Calif.* p. 255 (1856); *Scl. P. Z. S.* 1856, pp. 139, 286; *Scl. & Salv. Ibis*, 1859, p. 131; *Moore, P. Z. S.* 1859, p. 53; *Baird, B. N. Amer.* p. 159, pl. 7 (1860); *Taylor, Ibis*, 1860, p. 117; *Scl. P. Z. S.* 1858, p. 358, 1859, p. 367; *id. & Salv. P. Z. S.* 1864, p. 363; *Dresser, Ibis*, 1865, p. 472; *Coues, Ibis*, 1866, p. 263; *Lawr. Ann. Lyc. N. Y.* vii. p. 290 (1864); *id. op. cit.* p. 118 (1868); *Cooper, B. Calif.* p. 339 (1870).

Ceryle cabanisi (*nec Tschudi*), *Salvin, P. Z. S.* 1867, p. 152; *Scl. & Salv. t. c.* p. 280; *Sharpe, Monogr. Alced.* p. 87 (1868, pt.); *Salvin, P. Z. S.* 1870, p. 201; *Scl. & Salv. t. c.* p. 837; *Salvin, Ibis*, 1872, p. 321; *Scl. & Salv. Nomencl. Av. Neotr.* p. 103 (1873, pt.); *Boucard, P. Z. S.* 1878, p. 48, 1883, p. 453; *Ridgw. Proc. U.S. Nat. Mus.* ix. p. 161 (1886); *A. O. U. Check-l.* p. 209 (1886); *Lloyd, Auk*, iv. p. 190 (1887); *Ridgw. Proc. U.S. Nat. Mus.* x. pp. 582, 591 (1887); *Beckh. t. c.* p. 663; *Ridgw. Man. N. Amer. B.* p. 279 (1887).

Chloroceryle cabanisi, *Cab. & Heine, Mus. Hein.* Th. ii. p. 147 (1860); *Scl. Cat. Amer. B.* p. 265 (1862).

Alcedo cabanisi, *Schl. Mus. Pays-Bas*, Alced. p. 5 (1863); *id. op. cit. Revue*, p. 2 (1874).

Ceryle americana, var. cabanisi, *Coues, Key N. Amer. B.* p. 188 (1872); *Lawr. Mem. Bost. Soc. N. H.* ii. p. 290 (1874); *Baird, Brewer, & Ridgw. Hist. N. Amer. B.* ii. p. 396 (1874); *Lawr. Bull. U.S. Nat. Mus.* iv. p. 30 (1876); *Brewst. Bull. Nutt. Orn. Club*, iv. p. 79 (1879).

Ceryle americana cabanisi, *Coues, Check-l. N. Amer. B.* p. 75 (1882); *Nutting, Proc. U.S. Nat. Mus.* v. p. 399 (1882); *Ridgw. t. c.* p. 501; *Nutting, op. cit.* vi. pp. 375, 387, 394, 407 (1883); *Merrill, t. c.* p. 142; *Coues, Key N. Amer. B.* 2nd ed. p. 470 (1884).

Adult male. Similar to *C. americana*, and, like that species, having narrower bands of white on the quills than the true *C. cabanisi*, but differing from both forms in its much more robust bill. The under tail-coverts are always distinctly marked with green spots. Total length 7·6 inches, culmen 1·9, wing 3·2, tail 2·3, tarsus 0·4.

Adult female. Similar to the female of *C. americana*, but distinguished by its much stouter bill. Likewise it is never so buff below, but is whiter, as in true *C. cabanisi*. Total length 7·8 inches, culmen 1·9, wing 3·4, tail 2·4, tarsus 0·35.

The *young females* resemble the old females, but have small whitish spots on the crown and wing-coverts. The green bands on the under surface are much less pronounced and broken up into spots.

The *young males* appear at first to resemble the young females and to have the crown and wing-coverts minutely spotted with buff. The superior pectoral band is as green as in the female, and the chestnut colour appears to be assumed by a change in the pattern of the feather without a moult.

Hab. Lower California and Southern United States; south through the whole of Central America from Mexico to Panama.

a. ♂ juv.; *b*. ♀ ad. sk.	Paraiso Station, Panama (*A. Hughes*).	Salvin-Godman Coll.
c. ♀ ad. sk.	Chepo, Panama (*E. Arcé*).	Salvin-Godman Coll.
d. ♀ ad. sk.	Calovevora, Veragua (*E. Arcé*).	Salvin-Godman Coll.
e. ♂ ad. sk.	Cartago, Costa Rica, Jan. (*T. Cooper*).	Salvin-Godman Coll.
f. ♀ ad. sk.	Valza, Costa Rica, Feb. 23 (*J. Carmiol*).	Salvin-Godman Coll.
g. ♀ ad. sk.	Chontales, Nicaragua (*T. Belt*).	Salvin-Godman Coll.
h, *i*. ♀ ad. sk.	Guatemala (*Sharpe Coll.*).	Tweeddale Coll.
k. ♀ ad. sk.	Guatemala (*Henshaw Coll.*).	Salvin-Godman Coll.
l. ♂ ad.; *m*, *n*. ♀ ad. sk.	Dueñas, Guatemala, Oct. (*O.S.*).	Salvin-Godman Coll.
o, *p*. ♂ ♀ ad. sk.	San Gerónimo, Oct., Dec. (*O. S.*).	Salvin-Godman Coll.
q. ♂ ad. sk.	San Salvador (*Henshaw Coll.*).	Salvin-Godman Coll.
r. ♀ ad. sk.	San Pedro, Honduras (*G. M. Whitely*).	Salvin-Godman Coll.
s, *t*. ♂ ♀ ad. sk.	Honduras (*Sharpe Coll.*).	Tweeddale Coll.
u. ♀ ad. sk.	Cayo, Western British Honduras, Dec. 5 (*F. Blancaneaux*).	Salvin-Godman Coll.

v. ♂ ad. sk.	Mexico.	Sclater Coll.
w. ♂ ad. sk.	Mexico.	Gould Coll.
x, *y*. ♂ ♀ ad. sk.	Tehuantepec, Feb. (*W. B. Richardson*).	Salvin-Godman Coll.
z, *a'*. ♀ ad. sk.	Chimalapa, Tehuantepec, Mar. (*W. B. R.*).	Salvin-Godman Coll.
b'. ♂ ad. sk.	Sierra S. Domingo, Tehuantepec, Apr. 12 (*W. B. R.*).	Salvin-Godman Coll.
c'. ♀ juv. sk.	Sola, Oaxaca, April (*M. Trujillo*).	Salvin-Godman Coll.
d', *e'*. ♂ ♀ ad. sk.	Oaxaca City, March (*M. T.*).	Salvin-Godman Coll.
f'. ♀ ad. sk.	Juchatengo, Oaxaca, April (*M. T.*).	Salvin-Godman Coll.
g', *h'*. ♂ ♀ ad. sk.	Caloblan, Jalisco, March (*W. B. R.*).	Salvin-Godman Coll.
i'. ♂ ad.; *k'*. ♀ imm. sk.	San Blas, Tepic, May, June (*W. B. R.*).	Salvin-Godman Coll.
l'–*p'*. ♀ ad. sk.	Aguas Calientes, Aug. (*W. B. R.*).	Salvin-Godman Coll.
q' ♂ ad. sk.	Valles, S. Luis Potosi, May (*W. B. R.*).	Salvin-Godman Coll.
r'. ♀ ad. sk.	Chietla, Puebla, Nov. 28 (*Ferrari-Perez*).	Salvin-Godman Coll.
s'. ♀ ad. sk.	Vega del Casadero, Vera Cruz, Dec. (*M. Trujillo*).	Salvin-Godman Coll.
t'. ♀ ad. sk.	Misantla, Vera Cruz, Dec. (*M. T.*).	Salvin-Godman Coll.
u'. ♂ ad. sk.	Playa Vicente, Dec. (*M. T.*).	Salvin-Godman Coll.
v'. ♂ ad. sk.	Jalapa (*De Oca*).	Salvin-Godman Coll.
w'. ♂ juv. sk.	Jalapa, April (*Ferrari-Perez*).	Salvin-Godman Coll.
x'. ♀ ad. sk.	Orizaba, Dec. (*F. D. Godman*).	Salvin-Godman Coll.
y', *z'*. ♂ ♀ ad. sk.	Orizaba (*Botteri*).	Sclater Coll.
a''. ♀ ad. sk.	Morelia, Jan. (*F. D. G.*).	Salvin-Godman Coll.
b'', *c''*. ♂ ad.; *d''*-*g''*. ♀ ad. sk.	Teapa, Jan., March (*Mrs. H. H. Smith*).	Salvin-Godman Coll.
h''. ♀ ad. sk.	Atoyac, April (*Mrs. H. H. Smith*).	Salvin-Godman Coll.
i''–*m''*. ♂ ad.; *n''*. ♂ juv.; *o''*, *p''*. ♀ ad. sk.	Tampico, Feb., March, June (*W. B. R.*).	Salvin-Godman Coll.
q''. ♀ ad. sk.	Aldama, Tamaulipas, March (*W. B. R.*).	Salvin-Godman Coll.
r'', *s''*. ♂ ad. et imm. sk.	Sierra Madre, above Ciudad Victoria, May (*W. B. R.*).	Salvin-Godman Coll.
t''. ♀ imm. sk.	Nuevo Leon, June (*F. B. Armstrong*).	Salvin-Godman Coll.
u''. ♂ ad. sk.	Rio Salado, Nuevo Leon.	Salvin-Godman Coll.
v'', *w''*. ♂ ♀ ad.; *x''*. ♀ imm. sk.	Presidio, Mazatlan, Dec., Jan., May (*A. Forrer*).	Salvin-Godman Coll.
y'', *z''*. ♂ ♀ ad. sk.	Hermosillo, Sonora, Nov. (*Ferrari-Perez*).	Salvin-Godman Coll.
a^3. ♀ ad. sk.	Ysleta, Sonora, May 18 (*W. Lloyd*).	Salvin-Godman Coll.
b^3. ♀ ad. sk.	La Paz, Lower California, winter (*Henshaw Coll.*).	Salvin-Godman Coll.

c^3, d^3. ♂ ♀ ad. sk.	Hidalgo, Texas, April (*F. B. Armstrong*).	Salvin-Godman Coll.
e^3–h^3. ♂ ad.; i^3, k^3, l^3. ♀ ad. sk.	Brownsville, Texas, Feb.–May (*F. B. Armstrong*).	Salvin-Godman Coll.
m^3. ♀ ad. sk.	Nueces Co., Texas (*F. B. A.*).	Salvin-Godman Coll.
n^3, o^3. ♀ ad. et imm. sk.	San Antonio, Texas (*H. E. Dresser*).	Salvin-Godman Coll.
p^3. ♂ juv. sk.	Rio Medina, Texas (*H. E. D.*).	Salvin-Godman Coll.

8. Ceryle inda.

The Spotted Kingfisher, *Edwards, Glean.* iii. p. 262, pl. 335 (1764).

Alcedo inda, *Linn. Syst. Nat.* i. p. 179 (1766); *Gm. Syst. Nat.* i. p. 448 (1788); *Shaw & Nodder, Nat. Misc.* xxi. pl. 889 (1809).

Martin-pêcheur verd et roux de Cayenne, *Daubent. Pl. Enl.* viii. pl. 592.

Le Martin-pêcheur vert et roux, *Buff. Hist. Nat. Ois.* vii. p. 215 (1780).

Rufous and Green Kingfisher, *Lath. Gen. Syn.* i. pt. 2, p. 640 (1782).

Alcedo viridirufa, *Bodd. Tabl. Pl. Enl.* p. 36 (1783); *Schl. Mus. Pays-Bas*, Alced. p. 5 (1863); *id. op. cit. Revue*, p. 2 (1874).

Alcedo bicolor, *Gm. Syst. Nat.* i. p. 451 (1788); *Neuwied, Beitr. Naturg. Bras.* iv. p. 23 (1832); *Cab. in Schomb. Reis. Guian.* iii. p. 704 (1848).

Alcedo indica, *Drap. Dict. Class. d'Hist. Nat.* x. p. 231 (1826).

Ceryle bicolor, *Boie, Isis*, 1828, p. 316; *Kaup, Fam. Alced.* p. 8 (1848); *Bp. Consp.* i. p. 160 (1850); *Pelz. Orn. Bras.* p. 23 (1871).

Ceryle inda, *Gray, Gen. B.* i. p. 82 (1847); *Cass. Cat. Halc. Philad. Mus.* p. 3 (1852); *id. Proc. Philad. Acad.* 1860, p. 133; *Lawr. Ann. Lyc. N. Y.* vii. p. 290 (1860), viii. p. 183 (1864); *Scl. & Salv. P. Z. S.* 1864, p. 363, 1867, p. 581; *Sharpe, Monogr. Alced.* p. 91, pl. 27 (1869); *Gray, Hand-l. B.* i. p. 98, no. 1192 (1869); *Scl. & Salv. Nomencl. Av. Neotr.* p. 103 (1873); *iid. P. Z. S.* 1873, p. 293; *Tacz. Orn. Pérou*, iii. p. 103 (1886); *Salv. Ibis*, 1886, p. 60.

Ceryle viridirufa, *Gray, Gen. B.* i. p. 82 (1847); *id. List Fissir. Brit. Mus.* p. 61 (1848).

Chloroceryle bicolor, *Reichenb. Handb., Alced.* p. 28, pl. 414. figs. 3118–19 (1851); *Burm. Th. Bras.* ii. p. 406 (1856).

Amazonis bicolor, *Bp. Consp. Volucr. Anis.* p. 10 (1854).

Chloroceryle viridirufa, *Cab. & Heine, Mus. Hein.* Th. ii. p. 146 (1860).

Chloroceryle inda, *Scl. Cat. Amer. B.* p. 265 (1862).

Adult male. Above bronzy green; a streak from the nostril to the eye rufous; lower part of the back and the exterior aspect of the quills and tail-feathers minutely spotted with white; inner web of the same irregularly half-banded with white; entire under surface chestnut-rufous, paler on the chin and sides of the neck: bill blackish; feet red. Total length 8·8 inches, of bill from front 1·9, from gape 2·5, wing 3·9, tail 2·6, tarsus 0·07, middle toe 0·6, hind toe 0·05.

Adult female. Similar to the male, but has the breast crossed by a transverse belt of green mixed with white: "bill blackish, the lower mandible whitish at the base; feet grey; iris dark brown" (*Stolzmann*).

Hab. Central America from Nicaragua to Panama; south to Ecuador and Peru, Guiana, Amazonia, and Brazil.

a. ♀ ad. sk.	Veragua (*Arcé*).	Salvin-Godman Coll.
b. ♂ ad.; *c.* ♂ imm. sk.	Panama (*J. McLeannan*).	Salvin-Godman Coll.
d. ♀ ad.; *e.* ♂ juv. sk.	Sarayacu, Ecuador (*C. Buckley*).	Salvin-Godman Coll.
f. ♀ ad. sk.	Demerara.	W. T. Turner, Esq. [P.].
g, h. ♂ ♀ ad. st.	Demerara.	Sir R. Schomburgk [C.].
i. ♀ ad. sk.	Demerara.	Gould Coll.
k. ♂ ad. sk.	Demerara (*Sharpe Coll.*).	Tweeddale Coll.
l, m. ♂ ♀ ad. sk.	Camacusa, British Guiana, May (*H. Whitely*).	Salvin-Godman Coll.
n, o. ♂ ♀ ad. sk.	Bartica Grove, Nov., Dec. (*H. W.*).	Salvin-Godman Coll.
p. ♀ juv. sk.	Maroni River, Surinam (*Kappler*).	Salvin-Godman Coll.
q. ♂ ad. sk.	Surinam (*Sharpe Coll.*).	Tweeddale Coll.
r. ♀ ad. sk.	Cayenne.	Sclater Coll.
s. ♂ imm. sk.	Para (*A. R. Wallace*).	Sclater Coll.
t. ♀ ad. sk.	Para (*A. R. Wallace*).	Salvin-Godman Coll.
u. ♂ ad. sk.	Island of Mexiana (*A. R. W.*).	Salvin-Godman Coll.
v. ♂ ad. sk.	Pernambuco (*Craven*).	Sclater Coll.
w. ♂ ad. sk.	Bahia (*Dr. Wucherer*).	Salvin-Godman Coll.
x. ♀ ad. sk.	Brazil (*Sharpe Coll.*).	Tweeddale Coll.
y. ♂ ad. st.	S. America.	Old Coll.

9. Ceryle superciliosa.

The little Green and Orange-coloured Kingfisher, *Edwards, Gleanings*, i. p. 73, pl. 245 (1758).

Le Martin-pescheur verd d'Amérique, *Briss. Orn.* iv. p. 490 (1760).

Alcedo superciliosa, *Linn. Syn. Nat.* i. p. 179 (1766, *ex Edwards*); *Bodd. Tabl. Pl. Enl.* p. 47 (1783); *Gm. S. N.* i. p. 450 (1788); *Cab. in Schomb. Reis. Guian.* iii. p. 704 (1848); *Schl. Mus. Pays-Bas*, Alced. p. 6 (1863); *id. op. cit. Revue*, p. 2 (1874).

Petit Martin-pêcheur vert de Cayenne, *Daubent. Pl. Enl.* viii. pl. 756. figs. 2, 3.

Le Martin-pêcheur vert et orangé, *Buff. Hist. Nat. Ois.* vii. p. 218 (1780).

Supercilious Kingfisher, *Lath. Gen. Syn.* i. pt. 2, p. 643 (1782).

Ceryle superciliosa, *Gray, Gen. B.* i. p. 82 (1847); *id. List Fissir. Brit. Mus.* p. 62 (1848); *Bp. Consp.* i. p. 160 (1850); *Cass. Cat. Halc. Philad. Mus.* p. 3 (1852); *Léot. Ois. Trin.* p. 114 (1866); *Sharpe, Monogr. Alced.* p. 93, pl. 28 (1868, pt.); *Gray, Hand-l. B.* i. p. 98, no. 1193 (1869); *Pelz. Orn. Bras.* p. 24 (1871); *Scl. & Salv. Nomencl. Av. Neotr.* p. 103 (1873, pt.); *iid. P. Z. S.* 1873, p. 293; *Tacz. Orn. Pérou*, iii. p. 106 (1886); *Salv. Ibis*, 1886, p. 60; *W. L. Sclater, Ibis*, 1887, p. 318; *Allen, Bull. Amer. Mus. Nat. Hist.* ii. p. 109 (1889).

Chloroceryle superciliosa, *Reichenb. Handb., Alced.* p. 28, pl. 415. figs. 1122–24 (1851); *Burm. Th. Bras.* ii. p. 408, note (1856); *Cab. & Heine, Mus. Hein.* Th. ii. p. 146 (1860); *Scl. Cat. Amer. B.* p. 265 (1862).
Amazonis superciliosa, *Bp. Consp. Volucr. Anis.* p. 10 (1854).

Adult male. Above shining green; forehead and wing-coverts spotted with ochre; a spot on each side of the head at the base of the bill, extending backwards over the eye, pale reddish; the neck encircled with a band of white feathers tipped with reddish; wing-feathers blackish, the secondaries having the outer web edged with green-spotted ochre and the basal half of the inner web pale reddish; under surface deep red, becoming gradually paler on the throat and chin; abdomen and under tail-coverts pure white: bill black, the basal portion of the lower mandible yellowish; feet reddish; eye dark brown. Total length 5 inches, culmen 1, wing 2·2, tail 1·6, tarsus 0·2.

Adult female. Differs from the male in having a broad pectoral band composed of green feathers edged with white.

Hab. From Bolivia to Amazonia and Brazil, north to Guiana and Trinidad.

a, b. ♂ ♀ ad. sk.	South America.	Gould Coll.
c, d. ♂ ♀ ad. sk.	South America (*Sharpe Coll.*).	Tweeddale Coll.
e. ♂ ad. sk.	Trinidad.	Sclater Coll.
f. ♂ ad. sk.	Demerara River, British Guiana (*R. Swain*).	Salvin-Godman Coll.
g. ♂ imm. sk.	British Guiana, Dec. (*W. L. Sclater*).	Sclater Coll.
h. ♂ imm. sk.	Camacusa, British Guiana, June 13 (*H. Whitely*).	Salvin-Godman Coll.
i. ♀ ad. sk.	Bartica Grove, Jan. 7 (*H. W.*).	Salvin-Godman Coll.
k. ♀ ad. sk.	Demerara (*Sharpe Coll.*).	Tweeddale Coll.
l. ♀ ad. sk.	Demerara.	Purchased.
m. ♂ ad. sk.	Maroni River, Surinam (*Kappler*).	Salvin-Godman Coll.
n. ♀ ad. sk.	Cayenne.	Sclater Coll.
o. ♀ ad. sk.	Cayenne (*Sharpe Coll.*).	Tweeddale Coll.
p. ♀ ad. sk.	Island of Mexiana, Nov. (*A. R. Wallace*).	Salvin-Godman Coll.
q. ♀ ad. sk.	Pebas, E. Peru, July (*J. Hauxwell*).	Salvin-Godman Coll.
r. ♀ ad. sk.	Chyavetas (*E. Bartlett*: *Sharpe Coll.*).	Tweeddale Coll.
s, t. ♂ ad. et imm. sk.	Brazil (*Sharpe Coll.*).	Tweeddale Coll.
v. ♀ imm. sk.	Pernambuco (*Craven*).	Sclater Coll.
w. ♂ ad. sk.	Bahia (*Wucherer*).	Salvin-Godman Coll.

Subsp. *a.* **Ceryle stictoptera.** (Plate IV. fig. 2.)

Ceryle superciliosa (*nec L.*), *Scl. & Salv. Ibis*, 1859, p. 131; *iid. P. Z. S.* 1870, p. 837; *Sumichr. Mem. Bost. Soc. N. H.* i. p. 560 (1869); *Scl. & Salv. Nomencl. Av. Neotr.* p. 103 (1873, pt.); *Lawr.*

Bull. U.S. Nat. Mus. no. 4, p. 30 (1875); *Nutting, Proc. U.S. Nat. Mus.* v. p. 400 (1882); *Boucard, P. Z. S.* 1883, p. 453; *Salv. Ibis*, 1889, p. 371, 1890, p. 88.

Ceryle superciliosa stictoptera, *Ridgw. Proc. Biol. Soc. Washington*, ii. p. 95 (1884).

Adult male. Similar to *C. superciliosa*, but apparently never without fulvous spots on the quills at any age. Total length 5·3 inches, culmen 1·3, wing 2·35, tail 1·35, tarsus 0·3.

Adult female. Similar to the female of *C. superciliosa*, but showing fulvous spots on the quills. Total length 5·8 inches, culmen 1·25, wing 2·3, tail 1·5, tarsus 0·3.

Hab. Central America from Mexico to Panama.

a. ♀ ad. sk.	Chimalapa, Tehuantepec, Mar. (*W. B. Richardson*).	Salvin-Godman Coll.
b, c. ♂ ad. sk.	Choctum, Vera Paz, Guatemala, Feb. (*O. S.*).	Salvin-Godman Coll.
d. ♀ ad. sk.	Vera Paz (*Hague*).	Salvin-Godman Coll.
e. ♀ ad. sk.	Mouth of River Samala, Guatemala (*O. S.*).	Salvin-Godman Coll.
f. Ad. sk.	Cozumel Island, May (*G. F. Gaumer*).	Salvin-Godman Coll.
g, h. ♂ ♀ ad. sk.	Panama (*McLeannan*).	Salvin-Godman Coll.

10. **Ceryle æquatorialis.** (Plate IV. fig. 1.)

Adult male. Similar to *C. superciliosa*, and having the wings unspotted like that species. It differs, however, in having the under tail-coverts white, spotted with green, and in having some green spots fringing the upper border of the white abdomen, these spots separating the latter from the chestnut of the breast. Total length 5·7 inches, culmen 1·2, wing 2·35, tail 1·4, tarsus 0·3.

Hab. Ecuador.

a. ♀ ad. sk.	Santa Rita, Ecuador (*Villagomez*).	Salvin-Godman Coll.

3. ALCEDO.

Type.

Alcedo, *Linn. Syst. Nat.* i. p. 178 (1766) ..... A. ispida.

Range. Over the greater part of the Old World, excepting Australia and Polynesia. Absent in the New World.

Key to the Species.

a. With no complete band across the breast, but having a patch of blue or green on the sides of the upper breast.

a'. Under surface of body light orange-rufous or orange-brown.

a''. Ear-coverts entirely rufous, contrasting with the blue cheeks..... *ispida*, p. 141.

b''. Ear-coverts rufous, but with blue on the fore part and behind the eye ..... *floresiana*, p. 151.

c''. Ear-coverts blue like the cheeks and rest of the side of the face.
a'''. Scapulars bright blue; head blue, barred with black; streak on the side of the neck white or buffy white.
*a*⁴. Under surface of body bay or light orange-brown; length about 6·5 inches ..... *ispidoides*, p. 152.
*b*⁴. Under surface of body light orange-buff; length about 7 inches .... *semitorquata*, p. 153.
b'''. Scapulars black; head dingy black, with narrow bars of dull green; band on sides of neck deep orange-buff or bay ..... *euryzona* ♀, p. 154.
b'. Under surface of body deep chestnut-rufous or maroon.
d''. Wing-coverts spotted with green or greenish blue; the cheeks and sides of face bluish green; head and neck barred with green. Size large; length about 8 inches ..... *grandis*, p. 156.
e''. Wing-coverts spotted with purple or purplish blue, not green; sides of face blue or purple; head barred with blue or purple.
c'''. Size larger; wing 2·9–3·3 inches; purple bars on head indistinct ..... } *quadribrachys*, p. 157.
d'''. Size smaller; wing 2·55–2·7 inches; bars on head vivid and distinct. } *guentheri*, p. 156.
*c*⁴. Spots on wing-coverts purple without cobalt lustre ..... *meninting*, p. 157.
*d*⁴. Spots on wing-coverts distinctly blue or greenish blue ..... *beavani*, p. 160.
b. With a complete pectoral band of greenish blue, mottled with white spots; sides of body dusky blackish; streak on sides of neck rufescent; scapulars black washed with green. Size large; total length 7·5–8·0 inches ..... *euryzona*, p. 154.
c. With a complete pectoral band of greenish blue, like the sides of the body; streak on sides of neck white; upper surface greenish blue, lighter on the back. Size small; total length 5–5·5 inches ..... *beryllina*, p. 161.

1. Alcedo ispida.

The Little Indian Kingfisher, *Edwards, Nat. Hist. B.* i. p. 11, pl. 11 (1743).
Le Martin-pescheur, *Briss. Orn.* iv. p. 471 (1760).
Le Martin-pescheur de Bengale, *Briss. Orn.* iv. p. 471 (1760).
Alcedo ispida, *Linn. Syst. Nat.* i. p. 179 (1766); *Gm. Syst. Nat.* i. pp. 448 (1788); *Pall. Zoogr. Rosso-Asiat.* i. p. 435 (1811); *Vieill. N. Dict. d'Hist. Nat.* xix. p. 396 (1818); *Temm. Man. d'Orn.* i. p. 423 (1820); *Naum. Vög. Deutschl.* v. p. 480, Taf. 144 (1826); *Werner, Atlas, Alcyons*, pls. 2, 3 (1827); *Brehm, Vög. Deutschl.* p. 148 (1831); *Ménétr. Cat. Rais. Cauc.* p. 46 (1832); *Kittl. Kupf. Vög.* p. 22, pl. 29. fig. 1 (1832); *Selby, Brit. B.* i. p. 136 (1833);

Gould, B. Eur. ii. pl. 61 (1837); *Macgilliv. Br. B.* iii. p. 671 (1840); *Crespon, Orn. Gard*, p. 294 (1840); *Keys. u. Blas. Wirb. Eur.* p. 149 (1840); *Nordm. in Démid. Voy. Russ. Mérid.* iii. p. 207 (1840); *Selys-Longch. Faune Belge*, p. 108 (1842); *Rüpp. Syst. Uebers.* p. 23 (1844); *Schl. Rev. Crit.* p. lii (1844); *Mühle, Beitr. Orn. Griechenl.* p. 31 (1844); *Gray, Gen. B.* i. p. 81 (1847); *id. List Fissir. Brit. Mus.* p. 62 (1848); *Thomps. B. Irel.* i. p. 369 (1849); *Blyth, Cat. B. Mus. As. Soc.* p. 49 (1849); *Bp. Consp.* i. p. 158 (1850); *Cassin, Cat. Halcyon. Philad. Mus.* p. 1 (1852); *Kjærb. Orn. Dan.* pl. xiii. fig. 3 (1852); *Schl. Vog. Nederl.* pl. 134 (1854); *Bp. Consp. Volucr. Anis.* p. 10 (1854); *Hewits. Eggs Br. B.* i. p. 255, pl. 54. fig. 1 (1856); *Sundev. Sv. Fogl.* pl. lxx. fig. 2 (1856–72); *Jaub. et Barth.-Lapomm. Rich. Orn.* p. 326 (1859); *E. C. Taylor, Ibis*, 1859, p. 47; *Wright, Finl. Fogl.* p. 287 (1859); *Cab. & Heine, Mus. Hein.* Th. ii. p. 143 (1860); *Powys, Ibis*, 1860, p. 236; *Linderm. Vög. Griechenl.* p. 43 (1860); *Schl. Dier. Nederl. Vog.* pl. 14. fig. 2 (1861); *Tristr. Ibis*, 1862, p. 278; *Schl. Mus. Pays-Bas*, Alcedines, p. 6 (1863); *Gray, List Br. B.* p. 36 (1863); *Radde, Reis. Sibir., Vög.* p. 143 (1863); *Adams, Ibis*, 1864, p. 15; *Wright, t. c.* p. 73; *Allen, t. c.* p. 237; *Sperling, t. c.* p. 282; *More, Ibis*, 1865, p. 138; *Tristr. Ibis*, 1866, p. 84; *Lilford, t. c.* p. 178; *Degl. & Gerbe, Orn. Eur.* i. p. 173 (1867); *Taylor, Ibis*, 1867, p. 56; *Drake, t. c.* p. 425; *Loche, Expl. Sci. Algér., Ois.* ii. p. 94 (1867); *Bettoni, Ucc. nidif. Lomb.* ii., Alced. pls. 1, 1 *a* (1868); *Smith, Ibis*, 1868, p. 449; *Collett, Norges Fugle*, p. 147 (1869); *Gray, Hand-l. B.* i. p. 95, no. 1151 (1869); *Keulem. Onze Vog.* i. pl. 45 (1869); *Borggr. Vogelf. Norddeutschl.* p. 68 (1869); *Saunders, Ibis*, 1869, p. 172; *Doderl. Avif. Sicil.* p. 56 (1869); *Heugl. Orn. N.O.-Afr.* i. p. 177 (1869); *Droste, Vog. Bork.* p. 84 (1869); *Wyatt, Ibis*, 1870, p. 12; *Elwes & Buckley, t. c.* p. 189; *Gould, B. Gt. Br.* ii. pl. 10 (1870); *Sharpe, Monogr. Alced.* p. 1, pl. i (1870); *Fritsch, Vög. Eur.* pl. xiv. fig. 1 (1871); *Salvad. Faun. Ital., Ucc.* p. 45 (1871); *Saunders, Ibis*, 1871, p. 67; *R. Gray, B. W. Scotl.* p. 204 (1871); *Harting, Handb. Br. B.* p. 34 (1872); *Godman, Ibis*, 1872, p. 169; *Shelley, B. Egypt*, p. 164 (1872); *Brooke, Ibis*, 1873, p. 236; *Severtz. Turkest. Jevotn.* p. 68 (1873); *Hume, Str. F.* i. p. 168 (1873); *Wright, Ibis*, 1874, p. 237; *Lilford, Ibis*, 1875, p. 16; *Cordeaux, t. c.* p. 184; *Danf. & Harvie-Brown, t. c.* p. 300; *Dresser, B. Eur.* v. p. 113, pl. 290 (1875); *Irby, B. Gibr.* p. 68 (1875); *Stoliczka, Str. F.* iii. p. 219 (1875); *Fallon, Ois. Belg.* p. 122 (1875); *Wharton, Ibis*, 1876, p. 19; *Dresser, t. c.* p. 320; *Blanf. East. Persia*, ii. p. 121 (1876); *Butler, Str. F.* v. p. 208 (1877); *Danf. Ibis*, 1877, p. 262, 1878, p. 7; *Bogd. B. Cauc.* p. 114 (1879); *Finsch, Verh. zool.-bot. Ges. Wien*, xxix. p. 153 (1879); *Butler, Cat. B. Sind etc.* p. 17 (1879); *Hume, Str. F.* viii. p. 86 (1879); *Danf. Ibis*, 1880, p. 83; *Seeb. t. c.* p. 193; *Newt. ed. Yarrell's Br. B.* ii. p. 443 (1881); *C. Swinh. Ibis*, 1882, p. 102; *Seeb. t. c.* p. 289; *B. O. U. List Br. B.* p. 80 (1883); *Liebe, J. f. O.* 1883, pp. 286–291; *Seeb. Ibis*, 1883, p. 21; *Irby, t. c.* p. 179; *Booth, Rough Notes*, ii. pl. (1881–87); *Gigl. Iconogr. Avif. Ital.* sp. 59 (1882); *Homeyer & Tancré, MT. orn. Ver. Wien*, 1883, p. 83; *Chapm. Ibis*, 1884, p. 97; *Saunders, t. c.* p. 379; *Seeb. Hist. Br. B.* ii. p. 341 (1884); *Tristr. Faun. & Flor. Palest.* p. 86 (1884); *Radde, Orn. Cauc.* p. 323 (1884); *Murray, Vertebr. Faun. Sind*, p. 111 (1884); *Whitehead, Ibis*, 1885, p. 27; *Reid, t. c.* p. 247; *Gigl. Avif. Ital.* p. 213 (1886); *Sharpe, Ibis*, 1886, p. 166; *Salvad. Elench. Ucc. Ital.* p. 76 (1887); *Backh. Ibis*,

1887, p. 72; *Tait, t. c.* p. 305; *Lorenz, Beitr. Orn. Kauc.* p. 43 (1887); *Lilford, Col. Fig. Brit. B.* part viii. (1888); *St. John, Ibis*, 1889, p. 157; *Lilford, t. c.* p. 131; *Gigl. Avif. Ital.*, 1st *Resoc.* p. 350 (1889); *Seeb. B. Japan. Emp.* p. 175 (1890).

Martin-pêcheur, *Daubent. Pl. Enl.* viii. pl. 77.

Le Martin-pêcheur ou l'Alcyon, *Buff. Hist. Nat. Ois.* vii. p. 164 (1780).

Le Martin-pêcheur, *Buff. t. c.* p. 201 (1790).

Common Kingfisher, *Lath. Gen. Syn.* i. pt. 2, p. 626 (1782); *Yarrell, Hist. Brit. B.* ii. p. 206 (1843).

Indian Kingfisher, *Lath. t. c.* p. 631 (1782).

Alcedo bengalensis, *Gm. Syst. Nat.* i. p. 450 (1788); *Vieill. N. Dict. d'Hist. Nat.* xix. p. 400 (1818); *Sykes, P. Z. S.* 1832, p. 84; *Kittl. Kupf. Vög.* p. 22, pl. 29. fig. 2 (1832); *McClell. P. Z. S.* 1839, p. 156; *Jerd. Madr. Journ.* xi. p. 231 (1840); *Hodgs. Icon. ined. in Brit. Mus., Passeres*, pl. 17. fig. 2 (no. 606); *id. in Gray's Zool. Misc.* p. 82 (1844); *Blyth, J. A. S. B.* xv. p. 11 (1846); *Gray, Cat. Mamm. etc. Nepal pres. Hodgs.* p. 57 (1846); *id. Gen. B.* i. p. 81 (1847); *id. Cat. Fiss. Brit. Mus.* p. 68 (1848); *Blyth, Cat. B. Mus. As. Soc.* p. 49 (1849); *Bp. Consp.* i. p. 151 (1850); *Cass. Cat. Hale. Philad. Mus.* p. 1 (1852); *Layard, Ann. & Mag. N. H.* (2) xii. p. 172 (1853); *Moore, P. Z. S.* 1854, p. 269; *Bp. Consp. Vol. Anis.* p. 10 (1854); *Horsf. & Moore, Cat. B. Mus. E.I. Co.* i. p. 129 (1854); *Adams, P. Z. S.* 1858, p. 474; *Gould, P. Z. S.* 1859, pp. 150, 151; *Adams, t. c.* p. 174; *Swinh. Ibis*, 1860, p. 49, 1861, pp. 31, 328; *Cab. & Heine, Mus. Hein.* Th. ii. p. 144 (1860); *Gould, B. Asia*, i. pl. 53 (1862); *Jerd. B. Ind.* i. p. 230 (1862); *Blakist. Ibis*, 1862, p. 325; *Schomb. Ibis*, 1864, p. 247; *Blyth, Ibis*, 1866, p. 348; *Whitely, Ibis*, 1867, p. 193; *Swinh. t. c.* p. 408; *Tytler, Ibis*, 1868, p. 196; *Bulger, Ibis*, 1869, p. 156; *Beavan, t. c.* p. 409; *Gray, Hand-l. B.* i. p. 95, no. 1152 (1869); *Godw.-Aust. J. A. S. Beng.* xxxix. p. 95 (1870); *Stol. t. c.* p. 297; *Swinh. Ibis*, 1870, p. 92; *Blanf. t. c.* p. 465; *Sharpe, Monogr. Alced.* p. 11, pl. 2 (1870); *Swinh. P. Z. S.* 1871, p. 347; *Blanf. J. A. S. Beng.* xl. p. 271 (1871); *Shelley, B. Egypt*, p. 166 (1872); *Holdsw. P. Z. S.* 1872, p. 424; *Stoliczka, J. A. S. Beng.* xli. p. 232 (1872); *Hume & Henders. Lahore to Yark.* p. 178 (1873); *Walden, Ibis*, 1873, p. 302; *Hayes Lloyd, t. c.* p. 407; *Hume, Nests & Eggs Ind. B.* p. 107 (1873); *id. Str. F.* i. pp. 168, 305, 450 (1873); *Adam, t. c.* p. 372; *Rainey, t. c.* p. 496; *Hume, Str. F.* ii. pp. 173, 470 (1874); *Ball, t. c.* p. 387; *Salvad. Ucc. Born.* p. 92 (1874); *Hume, Str. F.* iii. p. 72 (1875); *Blyth & Wald. B. Burm.* p. 71 (1875); *Butler, t. c.* p. 456; *Fairb. Str. F.* iv. p. 254 (1876); *Armstr. t. c.* p. 307; *Dresser, Ibis*, 1876, p. 320; *Sharpe, Ibis*, 1877, p. 6; *Tweedd. P. Z. S.* 1877, pp. 690, 757; *id. Ibis*, 1877, p. 297; *Wardl. Ramsay, t. c.* p. 457; *David & Oust. Ois. Chine*, p. 74 (1877); *Tweedd. P. Z. S.* 1878, pp. 341, 709, 943; *Anders. Rep. Zool. Exped. Yunnan*, p. 580 (1878); *Blakist. & Pryer, Ibis*, 1878, p. 229; *Hume & Davison, Str. F.* vi. p. 77 (1878); *Ball, Str. F.* vii. p. 204 (1878); *Cripps, t. c.* p. 260; *Legge, B. Ceylon*, i. p. 292 (1878); *Meyer, Ibis*, 1879, p. 64; *Hume, Str. F.* viii. pp. 49, 86 (1879); *Salvad. Ann. Mus. Civ. Genov.* xiv. p. 193 (1879); *Scully, t. c.* p. 238; *Doig, t. c.* p. 370; *Brooks, t. c.* p. 468; *Sharpe, P. Z. S.* 1879, p. 329; *Butler, Cat. B. Sind &c.* p. 16 (1879); *id. Cat. B. S. Bomb. Pres.* p. 20 (1880); *Salvad. Orn. Papuasia e delle Molucche*, i. p. 407 (1880); *Vidal, Str. F.* ix. p. 50 (1880); *Bingham, t. c.* p. 155; *Butler, t. c.* p. 383; *Bolau, J. f. O.* 1880, p. 115, 1881, p. 53; *Kelham, Ibis*, 1881, p. 382; *H. H. Slater, Ibis*, 1882, p. 432;

C. Swinh. Ibis, 1882, p. 102; *Jouy, Proc. U.S. Nat. Mus.* vi. p. 310 (1883); *Homeyer & Tancré, MT. orn. Ver. Wien*, 1883, p. 83; *Parker, Ibis*, 1883, p. 193; *Oates, Handb. B. Brit. Burm.* ii. p. 72 (1883); *Blakist. Amended List B. Japan*, p. 13 (1884); *Murray, Vertebr. Faun. Sind*, p. 111 (1884); *Seeb. Ibis*, 1884, pp. 261, 428; *Sharpe, t. c.* p. 318; *C. H. T. Marshall, t. c.* p. 409; *Guillem. P. Z. S.* 1885, pp. 255, 407, 504, 547; *C. Swinh. & Barnes, Ibis*, 1885, p. 61; *A. Müll. J. f. O.* 1885, p. 156; *Vorderm. N. T. Nederl. Ind.* xlvi. p. 11 (1886); *Gigl. & Salvad. P. Z. S.* 1887, p. 581; *Sharpe, Ibis*, 1886, p. 488; *Reid, Str. F.* x. p. 22 (1887); *Oates, t. c.* p. 187; *Davidson, t. c.* p. 296; *Davison, t. c.* p. 351; *Taylor, t. c.* p. 457; *Terry, t. c.* p. 471; *Styan, Ibis*, 1887, p. 230; *Salvad. Ann. Mus. Genov.* (2) iv. p. 584 (1887); *Doerries, J. f. O.* 1888, p. 65; *Vorderm. N. T. Nederl. Ind.* xlix. p. 393 (1889); *Hartert, J. f. O.* 1889, p. 365; *St. John, Ibis*, 1889, p. 157; *Everett, P. Z. S.* 1889, p. 225; *id. Journ. Straits Branch R. As. Soc.* 1889, p. 158; *Sharpe, Ibis*, 1890, pp. 18, 283; *Whitehead, t. c.* p. 45; *Oates, ed. Hume's Nests & Eggs Ind. B.* iii. p. 1 (1890).

Alcedo ispida bengalensis, *Temm. & Schl. Faun. Jap., Aves*, p. 76, pl. 38 (1830); *Seebohm, Ibis*, 1882, pp. 248, 424; *id. Ibis*, 1887, p. 176.

Alcedo ispida, var. bengalensis, *Raffl. Trans. Linn. Soc.* xiii. p. 293 (1822); *Schrenck, Reis. Amurl.* p. 265 (1859); *Radde, Sibir. Reis., Vög.* p. 143 (1863); *Severtz. Turkest. Jevotn.* p. 68 (1873).

Alcedo hispida, *Less. Traité*, p. 243 (1831); *Filippi, Viagg. Persia*, p. 346 (1865).

Alcedo subispida, *Brehm, Vög. Deutschl.* p. 149 (1831).

Alcedo advena, *Brehm, t. c.* p. 150, Taf. xi. fig. 2 (1831).

Alcedo pallasi, *Reichenb. Handb., Alced.* p. 3, Taf. 392. figs. 3043–44, Taf. 393. figs. 3045–46 (1851).

Alcedo bengalensis, var. sondaica, *Reichenb. t. c.* p. 3 (1851).

Alcedo japonica, *Bp. Consp. Vol. Anis.* p. 10 (1854).

Alcedo brachyrhynchus, *Brehm, Vogelf.* p. 51 (1855).

Alcedo pallida, *Brehm, t. c.* p. 51.

Alcedo bella, *Brehm, t. c.* p. 51.

Alcedo sondaica, *Cab. & Heine, Mus. Hein.* Th. ii. p. 144 (1860) *Gray, Hand-l. B.* i. p. 95, no. 1157 (1869).

Alcedo minor, *Schl. Mus. Pays-Bas*, Alced. p. 7 (1863); *id. Vog. Nederl. Ind.*, Alced. pp. 4, 43, pl. i. fig. 3 (1864).

Alcedo ispida minor, *Heugl. Orn. N.O.-Afr.* i. p. 178 (1869).

Ispida bengalensis, *Tacz. J. f. O.* 1875, p. 254; *id. Bull. Soc. Zool. France*, i. p. 135 (1876).

Alcedo sindiana, *Hume, Str. F.* i. p. 168 (1873).

Dacelo minor, *Snellem. in Veth's Midden-Sumatra, Vog.* p. 36 (1887).

Adult male. General colour above greenish blue, with slight indications of streaks of lighter blue on the scapulars; entire back, rump, and upper tail-coverts rich cobalt-blue; wing-coverts greenish blue, the median and greater coverts with spots of greenish cobalt; bastard-wing, primary-coverts, and quills blackish, externally blue; tail-feathers blue with black shafts; crown of head greenish blue banded with dusky blackish, each blue bar having a central shaft-streak of greenish blue, the blue of the nape and hind neck brighter and not so green; lores blackish, surmounted by a broad streak of orange-rufous; sides of face and ear-coverts orange-rufous; cheeks

bright blue, barred with dusky blackish; on the sides of the neck a broad band of buffy-white feathers, slightly tinged with orange-rufous; throat buffy white; remainder of the under surface from the lower throat downwards rich orange-rufous; the sides of the upper breast greenish blue; under wing-coverts orange-rufous like the breast; quills dusky below, washed with rufous along the inner web: bill entirely black; feet coral-red; iris dusky brown. Total length 7·5 inches, culmen 1·75, wing 3·1, tail 1·5, tarsus 0·35.

Adult female. Similar to the male, but rather duller and greener in colour, and distinguished by having the basal half of the lower mandible red. Total length 7 inches, culmen 1·55, wing 3, tail 1·4, tarsus 0·3.

Young. Similar to the adults, but much more dingy in colour, and always recognizable by the ashy colour which overspreads the fore neck and breast, all the feathers being edged with dull ashy.

Hab. The whole of Europe and Northern Asia to the Japanese Islands, throughout China, the Burmese countries, and the Indian Peninsula, the Malayan Peninsula, and the Indo-Malayan Islands to the Moluccas. It will be noticed that I have united *A. bengalensis* to *A. ispida*, as it is impossible to find characters for their separation.

a, *b*, *c*. Juv. st.	Cambridgeshire.	Mr. J. Baker [C.].
d. ♀ ad.; *e*–*k*. Juv. st. [group].	Suffolk, May.	T. Harcourt Powell, Esq. [P.].
l, *m*. Ad. et imm. sk.	Hendon, Middlesex (*O.S.*).	Salvin-Godman Coll.
n. Ad. st.	Kingsbury, Middlesex.	J. E. Harting, Esq. [P.].
o. ♂ juv. sk.	Kingsbury, Aug.	J. E. Harting, Esq. [P.].
p. ♀ imm. sk.	Highgate, Aug. (*R. B. S.*).	Tweeddale Coll.
q. Ad. st.	British Museum Court-yard, Bloomsbury, London, Dec.	Mr. G. Deacon [P.].
r–*u*. ♂ ♀ ad. et jun. sk.	Cookham, Berks, Feb., April, June (*J. G.*).	Gould Coll.
v. ♀ ad. sk.	Cookham, Dec. 29.	R. B. Sharpe, Esq., LL.D. [P.].
w–*z*. ♂ ad.; *a'*. ♀ ad. sk.	Cookham, March, April, Sept. (*R. B. S.*).	Tweeddale Coll.
b'–*d'*. Ad. st.	Cookham.	Mr. J. Briggs [C.].
e'. ♂ juv. sk.	Marlow, Bucks, July 28.	R. B. Sharpe, Esq., LL.D. [P.].
f'. ♀ juv. sk.	Romney Marsh, Kent, Sept. 3.	R. B. Sharpe, Esq., LL.D. [P.].
g', *h'*. ♂ imm. sk.	Pagham, Sussex, Sept., Oct.	R. B. Sharpe, Esq., LL.D. [P.].
i'. ♀ ad. sk.	Hampshire (*P.L.Sclater*).	Tweeddale Coll.
k'. Ad. sk.	Christchurch, Hants, Feb.	Baron A. Von Hügel [P.].
l'. Ad. sk.	Devonshire.	Montagu Coll.
m'. Juv. sk.	Belgium, Aug. 8.	Brussels Museum [P.].
n'. Ad. sk.	Southern Spain (*Col. L. H. Irby*).	Tweeddale Coll.
o'. ♂ ad. sk.	Malaga, Nov. 11 (*H. Saunders*).	Tweeddale Coll.

p'. ♂ ad. sk.	Rio Genil, Granada, Sept. (*H. S.*).	Tweeddale Coll.
q'. Ad. sk.	Estarêja, Portugal, Nov.	Dr. L. Vieira [P.].
r', *s'*. ♂ ad. sk.	Turin, Italy, Nov.	Count Salvadori [P.].
t'. Ad. sk.	Tripoli, April (*Dickson & Ross*).	Gould Coll.
u'. Ad. sk.	Egypt.	Sir S. Baker.
v'. ♂ ad.; *w'*, *x'*. ♀ ad. sk.	Egypt, Feb. (*G. E. S.*).	Shelley Coll.
y'. Ad. sk.	Egypt (*S. Stafford Allen*).	Tweeddale Coll.
z'. Juv. sk.	Jeddah (*Zohrab*).	Shelley Coll.
a''. ♀ juv. sk.	Sidon.	Canon Tristram [C.].
b''. Juv. sk.	Turkey-in-Europe, Sept.	Gould Coll.
c'', *d''*. ♂ ♀ ad. sk.	Asia Minor (*T. Robson*).	Tweeddale Coll.
e'', *f''*, *g''*. Ad. sk.	Crimea.	Gould Coll.
h''. ♂ juv. sk.	Shiraz.	Sir O. St. John [C.].
i''. ♂ juv. sk.	Ispahan, July 10.	W. T. Blanford, Esq. [C.].
k'', *l''*, *m''*. ♂ ad. et juv. sk.	Fao, Persian Gulf.	W. D. Cumming, Esq. [P.].
n''. Ad. sk.	Muscat.	Col. Miles [P.].
o''. ♂ ad. sk.	Muscat, Feb. 22 (*A. O. H.*).	Hume Coll.
p''. ♂ ad. sk.	Pishin, Persian Baluchistan, Feb. 11, 1872.	W. T. Blanford, Esq. [C.].
q'', *r''*. Ad. sk.	Samarcand, Dec.	Seebohm Coll.
s''. ♂ ad. sk.	Turkestan, May 2 (*Russow*).	Seebohm Coll.
t''. ♂ ad. sk.	Ala-Kul, Turkestan, May 8.	Dr. O. Finsch [C.].
u''. Ad. sk.	Turkestan, April 18 (*Dr. Severtzoff*).	Tweeddale Coll.
v''. Ad. sk.	Kashgar, Feb. 10 (*Dr. Stoliczka*).	Forsyth Exped.
w''. Ad. sk.	Kashgar (*Dr. Bellew*).	India Museum.
x''. Ad. st.	Siberia.	Moscow Museum.
y'', *z''*. ♂ ad.; *a*^{3}. ♀ ad. sk.	Kandahar, Afghanistan, Feb. to April (*Sir O. St. John*).	Hume Coll.
b^3, *c*^{3}, *d*^{3}. ♂ ad. sk.	Kandahar, Dec., Jan., Feb.	Col. C. Swinhoe [P.].
e^3. ♀ ad. sk.	Gungazai, Afghanistan, May 1.	Col. C. Swinhoe [P.].
f^3. ♀ ad. sk.	Khushdil Khan, May 2.	Col. C. Swinhoe [P.].
g^3. ♂ ad. sk.	Quetta, May 6.	Col. C. Swinhoe [P.].
h^3. Ad. sk.	Quetta, Nov. (*Sir O. St. John*).	Hume Coll.
i^3, *k*^{3}, *l*^{3}. Ad. sk.	Khelat (*O. T. Duke*).	Hume Coll.
m^3, *n*^{3}. ♂ ad. sk.	Dil Murad, Sind, Dec. (*A. O. H.*).	Hume Coll.
o^3–*s*^{3}. ♂ ad.; *t*^{3}, *u*^{3}. ♀ ad. sk.	Jacobabad, Dec. (*A. O. H.*).	Hume Coll. (Types of *A. sindhiana*.)
v^3. ♀ ad. sk.	Cumba, Upper Sind, Jan. 7 (*A. O. H.*).	Hume Coll.
w^3. ♂ ad.; *x*^{3}, *y*^{3}. ♀ ad. sk.	Karachi, Nov., Jan., Feb. (*E. A. Butler*).	Hume Coll.
z^3. ♂ ad. sk.	Keothar Range, Sind, Dec. 5 (*W. T. Blanford*).	Hume Coll.

a[4]. ♂ ad. sk.	Banks of the Hubb River, Oct. 24.	Hume Coll.
b[4]. Ad. sk.	Godra, Panch Mehals, Sept.	Hume Coll.
c[4]. Ad. sk.	Kathiawar, Dec. 1.	Col. Hayes Lloyd [P.].
d[4], *e*[4]. ♂ imm. sk.	Deesa, April (*E. A. Butler*).	Hume Coll.
f[4]–*i*[4]. ♂ ad. sk.	Mount Abu, June (*E. A. Butler*).	Hume Coll.
k[4], *l*[4]. ♂ ♀ ad. sk.	Delhi, Mar. 1.	Hume Coll.
m[4]. ♂ ad. sk.	Sirza district, Panjab, Dec. 6.	Hume Coll.
n[4]. Ad. sk.	Lawrencepur, Panjab, Feb. 3 (*R. G. W. R.*).	Tweeddale Coll.
o[4]. ♂ ad. sk.	Abbotabad, Oct. 26.	Hume Coll.
p[4]. ♂ ad. sk.	Munchur Lake, Kashmir, Feb. 15.	Hume Coll.
q[4]. Ad. sk.	Kashmir.	E. M. Langworthy, Esq. [P.].
r[4]. Ad. sk.	Kashmir.	R. B. Sharpe, Esq., LL.D. [P.].
s[4], *t*[4]. ♂ ad. sk.	Kashmir, Aug.	Hume Coll.
u[4]. ♂ ad. sk.	Simla, March (*Dr. Scott*).	Tweeddale Coll.
v[4]. ♀ juv. sk.	Simla, Aug.	Hume Coll.
w[4]. Juv. sk.	Umbala, Feb. (*R. C. Beavan*).	Tweeddale Coll.
x[4]. ♂ ad. sk.	Dehra Dhoon.	Hume Coll.
y[4]. ♂ imm. sk.	Kaladungi, Dhoon, Sept.	Hume Coll.
z[4], *a*[5], *b*[5]. ♂ ad. sk.	Mussoorie, Feb.	Hume Coll.
c[5]. Ad. sk.	Kumaon (*Gen. Strachey*).	India Museum.
d[5]. ♂ ad. sk.	Kumaon, March 13.	Hume Coll.
e[5], *f*[5]. ♂ ad.; *g*[5]. ♀ ad. sk.	Etawah, Nov., Jan. (*W. E. Brooks*).	Hume Coll.
h[5], *i*[5]. ♂ ♀ ad. sk.	Futtegurh, Nov. (*A. Anderson*).	Seebohm Coll.
k[5]. ♀ ad. sk.	Ramghur, Nov. 8.	Hume Coll.
l[5]. Ad. st.	Behar.	Hodgson Coll.
m[5]. Ad. sk.	Behar.	Hodgson Coll.
n[5]. ♂ ad. sk.	Tirhoot, April 10.	Hume Coll.
o[5]. Ad. st.	Nepal.	Hodgson Coll.
p[5], *q*[5], *r*[5]. Ad. sk.	Nepal.	Hodgson Coll.
s[5], *t*[5]. ♂ et juv. sk.	Nepal Valley, Aug., Nov. (*Dr. Scully*).	Hume Coll.
u[5]–*x*[5]. Ad. et juv.	Native Sikhim, March, May (*L. Mandelli*).	Hume Coll.
y[5]–*c*[6]. Ad. et juv. sk.	Sikhim, March, June, Dec. (*L. Mandelli*).	Hume Coll.
d[6]. Ad. sk.	Darjiling.	Hume Coll.
e[6]. Ad. sk.	Darjiling.	Seebohm Coll.
f[6]. Ad. sk.	Bhootan Doars, Dec.	Seebohm Coll.
g[6], *h*[6]. Ad. et juv. sk.	Kamroop, Assam (*A. W. Chennell*).	Tweeddale Coll.
i[6], *k*[6]. ♀ ad. sk.	Shillong, Dec. (*J. Cockburn*).	Hume Coll.
l[6], *m*[6]. ♀ ad. et imm. sk.	Dibrughur, Jan., Sept. (*J. R. Cripps*).	Hume Coll.
n[6]. ♂ ad.; *o*[6], *p*[6], *q*[6]. ♀ ad. sk.	N. Khasia Hills, Feb., March, Nov. (*A. W. Chennell*).	Tweeddale Coll.

*r*⁶, *s*⁶. Ad. sk.	Cachar, March (*J. Inglis*).	Hume Coll.
*t*⁶, *u*⁶. ♂ ad. sk.	Manipur, March, April (*A. O. H.*).	Hume Coll
*v*⁶, *w*⁶. Ad. sk.	Dacca.	Hume Coll.
*x*⁶, *y*⁶. ♂ ad.; *z*⁶. ♀ ad. sk.	Calcutta, Jan.	Hume Coll.
*a*⁷. Ad. sk.	Saugor.	Hume Coll.
*b*⁷. Ad. sk.	Saugor (*Hooper*).	India Museum.
*c*⁷, *d*⁷, *e*⁷. Ad. sk.	Kampti.	Dr. B. Hinde [P.].
*f*⁷, *g*⁷. Ad. sk.	Khandeish.	Tweeddale Coll.
*h*⁷, *i*⁷, *k*⁷. Ad. sk.	Khandeish, Oct. (*J. Davidson*).	Hume Coll.
*l*⁷. Ad. sk.	Deccan (*Col. Sykes*).	India Museum.
*m*⁷. Ad. sk.	Bombay.	Gould Coll.
*n*⁷. Ad. sk.	Materhan, Nov.	Hume Coll.
*o*⁷, *p*⁷. ♂ ♀ ad. sk.	Mahabaleshwur Hills, May (*S. B. Fairbank*).	Hume Coll.
*q*⁷. ♂ ad. sk.	Twelve miles east of Ahmednuggar, Dec. 17 (*S. B. F.*).	Tweeddale Coll.
*r*⁷. ♂ ad. sk.	Khandala, May 9 (*S. B. F.*).	Tweeddale Coll.
*s*⁷–*v*⁷. ♂ ad.; *w*⁷, *x*⁷. ♀ ad. sk.	Belgaum, June to Sept. (*E. A. Butler*).	Hume Coll.
*y*⁷, *z*⁷, *a*⁸. Ad. sk.	Madras.	Rev. H. H. Baber [C.].
*b*⁸. Ad. sk.	Madras (*T. C. Jerdon*).	Gould Coll.
*c*⁸. Ad. sk.	Coorg.	Tweeddale Coll.
*d*⁸. ♂ ad. sk.	Bangalore, June 17 (*R. G. W. R.*).	Tweeddale Coll.
*e*⁸. Ad. sk.	Mysore (*Dr. Day*).	India Museum.
*f*⁸. Ad. sk.	Mysore (*R. G. W. R.*).	Tweeddale Coll.
*g*⁸. ♂ ad. sk.	Mysore, Dec. 5.	W. Davison, Esq. [P.].
*h*⁸. ♀ ad. sk.	Seegore, Feb. 17 (*W. D.*).	Hume Coll.
*i*⁸, *k*⁸. Ad. sk.	Anjango, Travancore.	Hume Coll.
*l*⁸, *m*⁸. ♂ ad.; *n*⁸. ♀ ad. sk.	Travancore, Nov., Jan., April.	F. W. Bourdillon, Esq. [C.].
*o*⁸. ♀ ad. sk.	Vellarney Lake, Travancore, June 21 (*F. W. B.*).	Hume Coll.
*p*⁸. ♂ ad. sk.	Cotta, Ceylon, Sept. 11 (*W. Hart*).	Hume Coll.
*q*⁸. ♀ ad. sk.	Ceylon (*G. Nevill*).	Tweeddale Coll.
*r*⁸. ♂ ad.; *s*⁸, *t*⁸. ♀ ad. sk.	Ceylon (*S. Chapman*).	Tweeddale Coll.
*u*⁸. ♂ imm. sk.	Zike Ka Yai Creek, Burmah, Oct. 23 (*J. Armstrong*).	Hume Coll.
*v*⁸, *w*⁸. Imm. sk.	Elephant Point, Dec., Jan. (*J. A.*).	Hume Coll.
*x*⁸. ♂ ad. sk.	Akyab, April 7 (*J. A.*).	Hume Coll.
*y*⁸. ♂ juv. sk.	Diamond Island, Nov. 20 (*J. A.*).	Hume Coll.
*z*⁸, *a*⁹. ♂ ♀ imm. sk.	Rangoon, Dec. (*R. G. W. R.*).	Tweeddale Coll.
*b*⁹, *c*⁹, *d*⁹. ♂ ad. sk.	Tonghoo, Oct., Nov., Feb. (*R. G. W. R.*).	Tweeddale Coll.
*e*⁹. ♀ juv. sk.	Karen Nee, March 15 (*R. G. W. R.*).	Tweeddale Coll.

*f*⁹. ♀ ad. sk.	Karen Hills, Jan. 13 (*R. G. W. R.*).	Tweeddale Coll.
*g*⁹, *h*⁹. ♂ ad. et juv. sk.	Pegu, Jan., Feb.	Oates Coll.
*i*⁹, *k*⁹, *l*⁹. ♂ ad. sk.	Pegu, Sept., Dec.	Hume Coll.
*m*⁹, *n*⁹. ♀ ad. sk.	S. Andaman, Dec., Jan. (*R. G. W. R.*).	Tweeddale Coll.
*o*⁹. ♂ ad. sk.	Ross Island, Andamans, Dec. 15 (*R. G. W. R.*)	Tweeddale Coll.
*p*⁹, *q*⁹, *r*⁹. ♀ ad. sk.	S. Andaman, Nov., Jan. (*W. Davison*).	Hume Coll.
*s*⁹. ♀ ad. sk.	Aberdeen, Dec. 25 (*W.D.*).	Hume Coll.
*t*⁹. ♂ imm. sk.	Port Mouat, Jan. 7 (*W.D.*).	Hume Coll.
*u*⁹. ♀ ad. sk.	Kondul Island, Nicobars, March 15 (*W. D.*).	Hume Coll.
*v*⁹, *w*⁹. ♂ ad. sk.	Nancowry Island, Nicobars, Dec. (*R. J. Wimberley*).	Tweeddale Coll.
*x*⁹. ♂ ad. sk.	Kollidoo, Tenasserim, Nov. 21 (*W. Davison*).	Hume Coll.
*y*⁹. ♂ ad. sk.	Kyouknyat, Jan. 27 (*W.D.*).	Hume Coll.
*z*⁹. ♂ ad. sk.	Dargwin, Jan. 6 (*W. D.*).	Hume Coll.
*a*¹⁰. ♀ ad. sk.	Pahpoon, Jan. 12 (*W. D.*).	Hume Coll.
*b*¹⁰–*f*¹⁰. ♂ ad. et imm.; *g*¹⁰. ♀ imm. sk.	Thatone, Oct. to Jan. (*W. D.*).	Hume Coll.
*h*¹⁰. ♀ ad. sk.	Wippitan, Dec. 11 (*W. D.*).	Hume Coll.
*i*¹⁰, *k*¹⁰. ♂ ♀ ad. sk.	Moulmein, Dec. 2 (*W. D.*).	Hume Coll.
*l*¹⁰. ♂ juv. sk.	Thoungya, Oct. 11 (*J. Darling*).	Hume Coll.
*m*¹⁰. ♂ ad. sk.	Pabyouk, March 12 (*W.D.*).	Hume Coll.
*n*¹⁰. ♂ ad. sk.	Muleyit, Jan. 26 (*W. D.*).	Hume Coll.
*o*¹⁰. ♂ ad. sk.	Meetan, Feb. 10 (*W. D.*).	Hume Coll.
*p*¹⁰. ♀ ad. sk.	Amherst, Dec. 18 (*W. D.*).	Hume Coll.
*q*¹⁰. ♂ ad.; *r*¹⁰, *s*¹⁰. ♀ ad. sk.	Tavoy, March, April (*W. D.*).	Hume Coll.
*t*¹⁰. ♂ ad. sk.	Mergui, Nov. 15 (*W. D.*).	Hume Coll.
*u*¹⁰. ♂ ad. sk.	Pakchan, Feb. 7 (*W. D.*).	Hume Coll.
*v*¹⁰, *w*¹⁰. ♂ ♀ ad. sk.	Bankasoon, Dec., Jan. (*W. D.*).	Hume Coll.
*x*¹⁰. ♀ ad. sk.	Malawun, April 12 (*W.D.*).	Hume Coll.
*y*¹⁰. ♂ ad. sk.	Meklong, Siam.	H. C. V. Hunter, Esq. [P.].
*z*¹⁰. ♂ ad. sk.	Bangkok.	Tweeddale Coll.
*a*¹¹. ♀ ad. sk.	Bangkok, April 3 (*Capt. Conrad*).	R. B. Sharpe, Esq., LL.D. [P.].
*b*¹¹, *c*¹¹. Imm. sk.	Saigon, Cochin China.	M. E. Pierre [P.].
*d*¹¹, *e*¹¹, *f*¹¹. ♂ ad. sk.	Salang, March 4 (*J. Darling*).	Hume Coll.
*g*¹¹. ♀ ad. sk.	Tonka, Jan. 27 (*J. D.*).	Hume Coll.
*h*¹¹, *i*¹¹. Juv. sk.	Penang (*Dr. Cantor*).	India Museum.
*k*¹¹, *l*¹¹. ♂ ♀ ad. sk.	Selangore, Dec., Feb. (*W. D.*).	Hume Coll.
*m*¹¹, *n*¹¹. ♂ ad.; *o*¹¹–*r*¹¹. ♀ ad. et juv. sk.	Malacca (*Dr. Maingay*: *R. G. W. R.*).	Tweeddale Coll.

s^{11}, t^{11}. ♂ juv. sk.	Chohong, 26 miles from Malacca, Oct. (*W. D.*).	Hume Coll.
u^{11}, v^{11}. ♂ ad. sk.	Nealys, 32 miles from Malacca, Oct. (*W. D.*).	Hume Coll.
w^{11}. ♂ ad.; x^{11}, y^{11}, z^{11}. ♀ ad. et juv. sk.	Pulo Seban, Oct., Nov. (*W. D.*).	Hume Coll.
a^{12}. ♀ ad. sk.	Singapore, Jan. 23.	Dr. McKinlay [P.].
b^{12}–g^{12}. ♂ ad; h^{12}, i^{12}. ♀ ad. et juv. sk.	Singapore, Sept., Dec. (*W. D.*).	Hume Coll.
k^{12}. Ad. sk.	Sumatra (*Sir S. Raffles*).	India Museum.
l^{12}, m^{12}. ♀ ad. sk.	Lampong, Sumatra (*E. C. Buxton*).	Tweeddale Coll.
n^{12}, o^{12}. Ad. et imm. sk.	Labuan (*J. Motley*).	Tweeddale Coll.
p^{12}, q^{12}. Ad. sk.	Lumbidan.	Sir Hugh Low [C.].
r^{12}. ♀ ad. sk.	Sarawak.	Rajah Brooke [P.].
s^{12}. Juv. sk.	Elopura, Sandakan (*H. Pryer*).	Seebohm Coll.
t^{12}. ♀ ad. sk.	Luzon, April (*Dr. A. B. Meyer*).	Tweeddale Coll.
u^{12}. ♂ ad. sk.	San Mateo, Luzon, Feb. (*A. Everett*).	Tweeddale Coll.
v^{12}. ♂ ad. sk.	Monte Alban, Luzon, Feb. (*A. Everett*).	Tweeddale Coll.
w^{12}. ♀ ad. sk.	Negros, March (*Dr. A. B. Meyer*).	Tweeddale Coll.
x^{12}. ♂ ad. sk.	Cebu, March (*A. Everett*).	Tweeddale Coll.
y^{12}. ♂ ad. sk.	S. Leyte, Oct. (*A. E.*).	Tweeddale Coll.
z^{12}. ♀ imm. sk.	N. Bohol, Oct. (*A. E.*).	Tweeddale Coll.
a^{13}. ♀ ad. sk.	Zamboanga, Mindanao, March (*A. E.*).	Tweeddale Coll.
b^{13}. ♀ imm. sk.	Halmahera.	Purchased.
c^{13}. ♀ imm. sk.	Halmahera.	Wallace Coll.
d^{13}. Ad. sk.	Hainan, March (*R. Swinhoe*).	Seebohm Coll.
e^{13}. Ad. sk.	China (*Tuckett*).	Gould Coll.
f^{13}, g^{13}. Imm. sk.	Hong Kong.	Voy. H.M.S. 'Challenger.'
h^{13}. Ad. sk.	Canton.	Tweeddale Coll.
i^{13}, k^{13}. ♂ ♀ ad. sk.	Canton, April (*R. Swinhoe*).	Seebohm Coll.
l^{13}, m^{13}. ♂ ad.; n^{13}, o^{13}, p^{13}. ♀ ad. sk.	Amoy, Dec., April, May (*R. Swinhoe*).	Tweeddale Coll.
q^{13}–y^{13}. Ad. et juv. sk.	Amoy, April to July (*R. S.*).	Seebohm Coll.
z^{13} e^{14}. ♂ ad.; f^{14}. ♀ ad. sk.	Formosa, April, March, Nov. (*R. S.*).	Tweeddale Coll.
g^{14}–t^{14}. ♂ ad. et juv. sk.	Formosa, March to June, Oct. to Dec. (*R. S.*).	Seebohm Coll.
u^{14}. Ad. sk.	Foochow, Jan. (*R. S.*).	Seebohm Coll.
v^{14}. Juv. sk.	Foochow (*R. S.*).	Tweeddale Coll.
w^{14}. Ad. sk.	Fokien.	Gould Coll.
x^{14}–z^{14}. Ad. et juv. sk.	Tingchow, Aug., Dec. (*R. S.*).	Seebohm Coll.

a^{15}, b^{15}, c^{15}. ♂ ad.; d^{15}. Juv. sk.	Ningpo, April (*R. S.*).	Seebohm Coll.
e^{15}. ♀ ad. sk.	Shanghai, Feb. (*Capt. Ince*).	Mrs. Ince [P.].
f^{15}. ♂ ad. sk.	Shanghai, Aug. (*R. Bergman*).	Tweeddale Coll.
g^{15}. ♂ ad. sk.	Shanghai, March (*Shanghai Mus.*).	Tweeddale Coll.
h^{15}. 1mm. sk.	Chusan, Oct. (*Capt. Ince*).	Gould Coll.
i^{15}. ♂ ad. sk.	Chefoo, June 2 (*R. S.*).	Seebohm Coll.
k^{15}. ♂ ad. sk.	S. Manchuria, June.	H. M. E. James, Esq. [P.].
l^{15}. Juv. sk.	Ussuri-Land (*N. Prjevalski*).	Seebohm Coll.
m^{15}–p^{15}. Ad. sk.	Port Hamilton, Corea.	A. G. Wildey, Esq. [C.].
q^{15}, r^{15}. ♂ ad. sk.	Japan (*ex Leyden Mus.*).	Salvin-Godman Coll.
s^{15}, t^{15}. Ad. et juv. sk.	Japan.	Tweeddale Coll.
u^{15}. Ad. sk.	Yezo (*McVean*).	Tweeddale Coll.
v^{15}. ♀ ad. sk.	Hakodadi, Sept. 24 (*H. Whitely*).	Tweeddale Coll.
w^{15}. Ad. sk.	Hakodadi, Sept. (*J. Blakiston*).	Seebohm Coll.
x^{15}. ♀ ad. sk.	Nagasaki.	Tweeddale Coll.
y^{15}. Ad. sk.	Nagasaki, Jan. 25.	F. Ringer, Esq. [P.].
z^{15}–d^{16}. Ad. sk.	Yokohama (*H. Pryer*).	Seebohm Coll.
e^{16}. Ad. sk.	Liu Kiu Islands (*H. Pryer*).	Seebohm Coll.
f^{16}–i^{16}. Skulls.	Germany.	Dr. Günther [C.].

Subsp. *a*. **Alcedo floresiana.**

Alcedo bengalensis (*nec Gm.*), *Wall. P. Z. S.* 1863, p. 484.

Adult. Similar to *A. ispida*, and having the rufous band on the ear-coverts as in that species, but differing in its intense blue colour, which is remarkably defined on the hind neck, and also in having the blue colour continued under the hinder part of the eye and the fore portion of the ear-coverts. Total length 6 inches, culmen 1·6, wing 2·8, tail 1·25, tarsus 0·4.

This is an intermediate form between *A. ispida* and *A. ispidoides*, differing from the former in the greater extent of blue on the sides of the face, but still retaining the rufous band on the ear-coverts. It does not, however, show such a uniform blue side face as *A. ispidoides*. Some remarks on the Flores specimens will be found in my 'Monograph' (p. 14).

Hab. Island of Flores, Moluccas.

a, *b*. ♂ ad. sk.	Flores (*Wallace*: *Sharpe Coll.*).	Tweeddale Coll. (Types of species.)
c, *d*. Ad. sk.	Flores.	Wallace Coll.

2. Alcedo ispidoides.

Alcedo ispida (*nec L.*), *Temm. Pl. Col.* iv. livr. 46, note (1824).
Alcedo ispida, var. moluccana, *Lesson, Voy. Coquille*, i. pt. 1, p. 343 (1826).
Alcedo ispida, var. des Moluques, *Less. t. c.* i. pt. 2, p. 695 (1826); *Gray, P. Z. S.* 1860, p. 348.
Alcedo bengalensis (*nec Gm.*), *Less. Traité*, p. 243 (1831, pt.); *S. Müll. Verh. nat. Gesch. Land- en Volkenk.* pp. 87, 110 (1839–44).
Alcedo ispidoides, *Lesson, Compl. Buff.* ix. p. 345 (1837); *Bp. Consp. Volucr. Anis.* p. 10 (1854); *Salvad. Ann. Mus. Genov.* vii. p. 652 (1875), viii. p. 374 (1876), x. p. 300 (1877); *id. Orn. Papuasia e delle Molucche*, i. p. 408 (1880); *Meyer, Verh. z.-b. Ges. Wien*, xxxi. p. 774 (1881); *Sharpe, Journ. Linn. Soc.* xvi. p. 428 (1882); *Blasius & Nehrk. Verh. z.-b. Ges. Wien*, xxxii. p. 418 (1882); *Blasius, P. Z. S.* 1882, p. 703; *Finsch, Vög. der Südsee*, p. 8 (1834); *Meyer, Sitz. Abhandl. Ges. Isis Dresden*, 1884, Abth. i. p. 19; *id. Abbild. Vogel-Sk.* Lief. vi. Taf. lxiii. fig. 1; *Blasius, Zeitschr. ges. Orn.* iii. p. 92 (1886); *Grant, P. Z. S.* 1888, p. 192; *Salvad. Agg. Orn. Papuasia*, i. p. 53 (1889).
Alcedo moluccensis, *Blyth, J. A. S. Beng.* xv. p. 11 (1846); *id. Cat. B. Mus. As. Soc.* p. 49 (1849); *Bp. Consp.* i. p. 158 (1850); *Reichenb. Handb., Alced.* p. 5 (1851); *Bp. Consp. Volucr. Anis.* p. 10 (1854); *Wall. P. Z. S.* 1863, p. 25; *Rosenb. N. T. Nederl. Ind.* xxv. p. 231 (1862); *id. J. f. O.* 1864, p. 118; *Finsch, Neu-Guinea*, p. 151 (1865); *Gray, Hand-l. B.* i. p. 95, no. 1156 (1869); *Sharpe, Monogr. Alced.* p. 21, pl. 4 (1870); *Walden, Trans. Z. S.* viii. p. 45 (1872); *Rosenb. Reist. Geelvinkbai*, p. 6 (1875); *Cab. & Reichen. J. f. O.* 1876, p. 323; *Sel. P. Z. S.* 1877, p. 105; *Salvad. t. c.* p. 194; *Scl. P. Z. S.* 1878, p. 671; *Finsch, P. Z. S.* 1879, p. 10; *Meyer, Isis*, 1879, p. 64; *L. C. Layard, Ibis*, 1880, p. 299; *Guillem. P. Z. S.* 1885, pp. 547, 566.
Alcedo minor moluccensis, *Schl. Mus. Pays-Bas*, Alced. p. 3 (1863); *id. Vog. Nederl. Ind.* Alced. pp. 5, 44, pl. i. fig. 4 (1864).

Adult male. Similar to *A. ispida*, or rather to the smaller form usually called *A. bengalensis*, but easily distinguished by the colour of the sides of the face and ear-coverts, which are entirely blue like the cheeks and crown: "bill black; legs dark brown; iris brown" (*C. W. Woodford*). Total length 6·8 inches, culmen 1·55, wing 2·85, tail 1·2, tarsus 1·4.

The *young bird* differs from the adult in having the fore neck and chest obscured by dusky margins to the feathers; the scapulars are blackish slightly washed with blue.

Hab. From Celebes throughout the Moluccan and Papuan Islands to the Solomon Archipelago.

a. Ad. sk.	Celebes.	Dr. A. B. Meyer [C.].
b, c. ♂ ♀ ad. sk.	Celebes (*W. T. Fraser*: *Sharpe Coll.*).	Tweeddale Coll.
d, e. ♂ ad. et juv. sk.	Menado.	Gould Coll.
f. ♂ ad. sk.	Menado (*A. R. Wallace*).	Gould Coll.
g. Ad. sk.	Moluccas (*Sharpe Coll.*).	Tweeddale Coll.
h. ♀ ad. sk.	Bouru.	Wallace Coll.
i. ♀ ad. sk.	Amboina, March 29 (*Hoedt*: *Sharpe Coll.*).	Tweeddale Coll.

k. ♂ ad. sk.	Wahai, N. Ceram (*A. R. Wallace*).	Tweeddale Coll.
l. ♂ ad. sk.	Halmahera (*Sharpe Coll.*).	Tweeddale Coll.
m. Juv. sk.	Batchian.	Gould Coll.
n. ♀ ad. sk.	East Cape, S.E. New Guinea.	C. Hunstein [C.].
o. ♀ ad. sk.	Duke of York Island.	Rev. G. Brown [C.].
p. ♂ ad. sk.	Duke of York Island (*Rev. G. Brown*).	Tweeddale Coll.
q, r. ♂ ad. sk.	Aola, Guadalcanar, April, July.	C. M. Woodford, Esq. [C.].

3. Alcedo semitorquata.

Alcedo semitorquata, *Swains. Zool. Illustr.* iii. pl. 151 (1823); *Rüpp. Syst. Uebers.* p. 20, pl. 7 (1845); *Gray, Gen. B.* i. p. 81 (1847); *id. Cat. Fissir. Brit. Mus.* p. 63 (1848); *Kaup, Fam. Alced.* p. 17 (1848); *Bp. Consp.* i. p. 159 (1850); *Reichenb. Handb., Alced.* p. 5, Taf. 395, figs. 3054–55 (1851); *Cass. Cat. Halcyon. Philad. Mus.* p. 4 (1852); *Jard. Edinb. New Phil. Journ.* (2) iii. p. 242 (1856); *Heugl. Syst. Uebers.* p. 19 (1856); *Hartl. Orn. W.-Afr.* p. 34 (1857); *Grill, Zool. Anteckn.* p. 46 (1859); *Cab. & Heine, Mus. Hein.* Th. ii. p. 143 (1860); *Hartl. J. f. O.* 1861, p. 105; *Schl. Mus. Pays-Bas*, Alced. p. 10 (1863); *Heugl. J. f. O.* 1864, p. 331; *Layard, B. S. Afr.* p. 65 (1867); *Gray, Hand-l. B.* i. p. 95, no. 1160 (1869); *Heugl. Orn. N.O.-Afr.* i. p. 179 (1869); *Blanf. Geol. & Zool. Abyss.* p. 325 (1870); *Finsch & Hartl. Vög. Ostafr.* p. 859 (1870); *Gurney in Anderss. B. Dam.-Ld.* p. 58 (1872); *Ayres, Ibis*, 1873, p. 281; *id. Ibis*, 1876, p. 425; *Bocage, Orn. Angola*, p. 95 (1871); *Ayres, Ibis*, 1879, p. 291; *Shelley, Ibis*, 1882, p. 244; *Butler, Feilden, & Reid, Zool.* 1882, p. 206; *Sharpe, ed. Layard's B. S. Afr.* pp. 107, 806 (1884); *Salvad. Ann. Mus. Civic. Genov.* (2) i. p. 111 (1884); *Shelley, Ibis*, 1888, p. 291.

Alcedo azureus, *Less. Traité*, p. 243 (1831); *Pucher. Rev. et Mag. Zool.* 1853, p. 385.

Alcedo quadribrachys (*nec Bp.*), *Gurney, Ibis*, 1859, p. 245, 1873, p. 258; *Layard, B. S. Afr.* p. 66 (1867); *Sharpe, Ibis*, 1869, p. 283.

Adult male. Head and nape deep blue, banded with bright blue, the sides of the head above the ear-coverts being of an exceedingly rich blue colour; back very rich cobalt; the scapulars washed with bright blue; wing-coverts blue, with spots of greenish cobalt; quills blackish, externally greenish blue, the secondaries deeper blue on the outer web; tail-feathers deep blue, blackish towards the base and along the shafts; lores black, with a whitish streak above them; sides of face and ear-coverts black washed with blue, the cheeks brighter blue; on the sides of the neck a band of yellowish-white feathers tinged with orange; throat white with a yellowish tinge; remainder of the body orange-buff, with a large patch of blue at the sides of the upper breast; under wing-coverts deep orange-buff: "bill black; feet light red; iris dusky umber" (*T. Ayres*). Total length 7·5 inches, culmen 1·95, wing 3·35, tail 1·5, tarsus 0·4.

I have no doubt but that, as in all other species of *Alcedo*, the female of the present species has the base of the bill red, but I have not seen an authentic specimen.

Young. Rather greener than the adult, and distinguished by the bars on the chest, the feathers being fringed with black at the ends.

The male from Kilimanjaro has the wing smaller (3·15 inches), and is richer in colour than South-African specimens.

Hab. South Africa and East Africa as far north as Abyssinia.

a. Ad. st.	South Africa.	Sir A. Smith [C.].
b. Ad. st.	South Africa.	F. Campbell, Esq. [P.].
c. Juv. sk.	South Africa.	Tweeddale Coll.
d, *e.* Ad. sk.	Orange River.	Sharpe Coll.
f. Juv. sk.	Knysna, Jan. 16 (*C. J. Andersson*).	Sharpe Coll.
g. ♂ ad. sk.	Eland's Post (*T. C. Atmore*).	Sharpe Coll.
h. ♂ ad. sk.	Eland's Post, Jan. 6 (*T. C. A.*).	Shelley Coll.
i. ♂ juv. sk.	Algoa Bay, Sept. 20 (*Sharpe Coll.*).	Tweeddale Coll.
k, *l.* Ad. et juv. sk.	Natal (*T. Ayres*).	Gould Coll.
m. Ad. sk.	Durban, Natal (*W. Gordge*).	Shelley Coll.
n, *o.* Imm. sk.	Upper Umlaas River (*W. Gordge*).	Shelley Coll.
p. ♂ ad. sk.	Transvaal (*T. Ayres*).	Sharpe Coll.
q. ♂ ad. sk.	Rustenburg, E. Transvaal, July 4 (*T. Ayres*).	Gurney Coll.
r. Juv. sk.	Zambesi.	Sharpe Coll.
s. Ad. sk.	Shiré Cataract (*Sir J. Kirk*).	Livingstone Exped.
t. Ad. sk.	River Lumi at Rombo, Kilimanjaro district.	F. J. Jackson, Esq. [P.].
u. Ad. sk.	Abyssinia.	Shelley Coll.

4. Alcedo euryzona.

Alcedo cyanocephala (*nec Shaw*), *Raffl. Trans. Linn. Soc.* xiii. p. 293 (1820).

Alcedo euryzona *, *Temm. Pl. Col.* text in livr. 86 (1830); *Gray, Gen. B.* i. p. 81 (1847); *id. Cat. Fissir. Brit. Mus.* p. 63 (1848); *Kaup, Fam. Alced.* p. 17 (1848); *Bp. Consp.* i. p. 169 (1850); *Reichenb. Handb., Alced.* p. 418 (1851); *Cass. Cat. Halcyon. Philad. Mus.* p. 1 (1852); *Bp. Consp. Vol. Anis.* p. 10 (1854); *Horsf. & Moore, Cat. B. Mus. E.I. Co.* i. p. 128 (1854); *Schl. Mus. Pays-Bas*, Alced. p. 10 (1863); *id. Vog. Nederl. Ind., Alced.* pp. 7, 45, pl. i. figs. 1, 2 (1864); *Blyth, Ibis*, 1865, p. 30, 1866, p. 348; *Gray, Hand-l. B.* i. p. 95, no. 1153 (1869); *Sharpe, Monogr. Alced.* p. 29, pl. 8 (1870); *Salvad. Ucc. Born.* p. 95 (1874); *Hume, Str. F.* iii. p. 318 (1875); *Tweedd. Ibis*, 1877, p. 297; *Hume, Str. F.* viii. pp. 49, 162 (1879); *Salvad. Ann. Mus. Civ. Genov.* xiv. p. 193 (1879); *Sharpe, Ibis*, 1879, p. 248; *Oates, Handb. B. Brit. Burm.* ii. p. 75 (1883); *Blasius, J. f. O.* 1884, p. 217; *Vorderm. Nat.*

* Misprinted "*eryzona*" in Pl. Col.

Tijdschr. Nederl. Ind. xlvi. p. 11 (1886), xlix. p. 394 (1889); *Everett, Journ. Straits Branch R. As. Soc.* 1889, p. 159; *Sharpe, Ibis*, 1890, pp. 18, 283.

Alcedo nigricans, *Blyth, J. A. S. Beng.* xvi. p. 1180 (1847); *id. Cat. B. Mus. As. Soc.* p. 49 (1849); *Hume & Davison, Str. F.* vi. pp. 81, 499 (1878); *Hume, Str. F.* viii. p. 86 (1879); *Bingham, Str. F.* ix. p. 156 (1880).

Adult male (type of species). Head black, narrowly banded with dark berylline or greenish blue; ear-coverts obscurely, cheeks profusely washed with brighter blue; a band of feathers along the sides of the neck white, posteriorly orange; scapulars black, washed with dark berylline-blue; wing-coverts black, banded with bright blue at the end of the feathers, each band having a brighter streak of blue down the centre; quills brownish black, pale orange at the base, externally washed with dark berylline-blue; entire back rich silvery blue; tail dark greenish blue above, black beneath; a very small spot in front of the eye pale orange; throat and abdomen white, the latter tinged with orange; a broad band across the breast bright lazuli-blue, mottled with white centres to the feathers: flanks blackish; thigh-feathers buff, edged with black: "upper mandible black, the lower one very dark brown, almost black, paler at the base; legs and feet vermilion" (*W. Davison*). Total length 8 inches, culmen 1·9, wing 3·4, tail 1·4, tarsus 0·4. (*Mus. Lugd.*)

Adult female. Similar to the male, but has the breast deep orange-rufous, without any blue pectoral band: "bill black, the lower mandible dull vermilion; feet also vermilion" (*J. Whitehead*); "iris very dark brown" (*W. Davison*). Total length 7·6 inches, culmen 2·0, wing 3·4, tail 1·6, tarsus 0·4.

Younger males generally show a good deal of orange-buff on the underparts. The bill, according to Mr. Whitehead, is black with a pinkish tinge, and the feet are dull black; the whole of the band on the sides of the neck is also deep orange-buff. The bird described in my 'Monograph' as young appears to have been a nearly adult female.

Hab. From Southern Tenasserim to Malacca, Sumatra, Java, and Borneo.

a. ♀ ad. sk.	Foot of Mt. Nwalabo, Tenasserim, May 24 (*W. Davison*).	Hume Coll.
b. ♀ ad. sk.	Kaukaryit, June 18.	Major C. T. Bingham [P.].
c. ♂ ad. sk.	Myawadee, Jan. 15 (*W. Davison*).	Hume Coll.
d. ♂ ad. sk.	Malawoon.	Oates Coll.
e, *f*. ♀ ad.; *g*, *h*. ♂ imm. sk.	Bankasoon, March to May (*W. D.*).	Hume Coll.
i. ♂ ad. sk.	Lampong, S.E. Sumatra (*E. C. Buxton*).	Tweeddale Coll.
k, *l*. ♂ ad. st.	[Sumatra.]	Leyden Museum.

5. Alcedo grandis.

Alcedo grandis, *Blyth, J. A. S. Beng.* xiv. p. 190 (1845); *id. Cat. B. Mus. As. Soc.* p. 49 (1849); *id. Ibis*, 1865, pp. 30, 31, 1866, pp. 348, 363; *Gray, Hand-l. B.* i. p. 36, no. 1163 (1869); *Sharpe, Monogr. Alced.* p. 19, pl. 3 (1870); *Gould, B. Asia*, i. pl. 52 (1870); *Jerd. Ibis*, 1872, p. 4; *Godw.-Aust. J. A. S. Beng.* xlv. p. 69 (1876); *Hume, Str. F.* viii. p. 86 (1879); *Oates, ed. Hume's Nests & Eggs Ind. B.* iii. p. 4 (1890).
Alcedo euryzona (*nec T.*), *Jerd. B. Ind.* i. p. 231 (1862).

Adult. Head crested, black, with transverse bars of pale greenish cobalt, each bar having a little streak of silvery white down the centre; scapulars blackish, washed with deep green; whole of the back rich silvery cobalt, deepest on the rump and upper tail-coverts; wing-coverts blackish, washed with dark greenish blue, each feather having a small mesial streak of silvery blue; quills blackish, the inner web pale rufous at the base; the outer web of the secondaries edged with dark greenish blue; tail indigo above, black beneath; cheeks and ear-coverts blackish, longitudinally streaked with silvery cobalt; lores black, surmounted by a small spot of orange-buff; a longitudinal stripe along the sides of the neck and the throat white, tinged with yellowish buff; rest of the under surface of the body dark rufous: bill black; feet red. Total length 8 inches, culmen 1·7, wing 3·85, tail 1·65, tarsus 0·35.

Hab. Sikhim Terai, Eastern Himalayas, eastwards to the Dafla Hills.

a. Ad. sk.	Native Sikhim, March (*L. Mandelli*).	Hume Coll.
b. Ad. sk.	Sikhim (*L. Mandelli*).	Hume Coll.
c. Ad. sk.	Darjiling.	Hume Coll.

6. Alcedo guentheri. (Plate IV. fig. 2.)

Alcedo quadribrachys (*nec Bp.*), *Verr. Rev. et Mag. Zool.* 1851, p. 267; *Strickl. Contr. Orn.* 1851, p. 134, cum fig.; *Cass. Cat. Halcyon. Philad. Mus.* p. 2 (1852); *Hartl. Orn. Westafr.* p. 34 (1857, pt.); *Cass. Proc. Philad. Acad.* 1859, p. 34; *Heine, J. f. O.* 1860, p. 187; *Hartl. J. f. O.* 1861, p. 105; *DuChaillu, Equat. Africa*, p. 472 (1861); *Gray, Hand-l. B.* i. p. 95, no. 1159 (1869); *Sharpe, Monogr. Alced.* p. 25, pl. 6 (1870, pt.); *id. P. Z. S.* 1871, p. 603; *Sharpe & Bouvier, Bull. Soc. Zool. France*, i. p. 31 (1876); *Bocage, Orn. Angola*, p. 537 (1881); *Sharpe, Journ. Linn. Soc.* xvii. p. 435 (1884); *Reichen. J. f. O.* 1887, p. 307, 1890, p. 116.

Adult. Head, neck, cheeks, and scapulars rich ultramarine; the whole of the back and upper tail-coverts rich cobalt; a small spot in front of the eye and a longitudinal patch of feathers along the sides of the neck white tinged with rufous; wing-coverts blackish, washed with ultramarine; quills blackish, the inner web pale fulvous at the base, the outer web edged with blue; tail blackish, margined with blue; throat white; rest of the under surface of the body deep rufous; a patch of feathers on each side of the upper part of the

breast rich ultramarine: bill black; feet red; eye black. Total length 6·5 inches, of bill from front 1·6, from gape 2·1, wing 2·9, tail 1·3, tarsus 0·3, middle toe 0·3, hind toe 0·35.

Hab. West Africa, from the Congo to Gaboon and the Niger district, as far as Lagos.

a. Ad. sk.	Lagos.	Sir A. Moloney [P.].
b. Ad. sk.	Shonga, R. Niger.	Capt. M. Ferryman [P.].
c. Ad. sk.	Cameroons, Jan. 2 (*A. Crossley*).	Sharpe Coll.
d, *e*. Ad. sk.	Rio del Rey, Cameroons (*H. H. Johnston*).	Shelley Coll.
f. Ad. sk.	Gaboon (*J. Verreaux*).	Shelley Coll.
g, *h*. Ad. et juv. sk.	Gaboon.	M. Verreaux.
i. Ad. sk.	Gaboon (*Verreaux*).	Sharpe Coll.
k. Ad. sk.	Gaboon.	Gould Coll.
l, *m*. Imm. sk.	River Ogowé.	H.T.Ansell,Esq.[P.].
n, *o*. Ad. sk.	River Ogowé (*A. Marche*).	Shelley Coll.
p. Ad. sk.	Confluence of the Ogowé.	M. Marche [C.].
q. Ad. sk.	Semmio, Niam Niam, March.	F. Bohndorff [C.].

7. Alcedo quadribrachys. (Plate IV. fig. 1.)

Alcedo quadribrachys, *Bp. Consp.* i. p. 158 (1850, descr. pess.: ex Guinea); *Reichenb. Handb., Alced.* p. 5 (1851); *Bp. Consp. Volucr. Anis.* p. 10 (1854); *Schl. Handl. Dierk.* p. 305, pl. iv. fig. 43 (1857); *Hartl. Orn. Westafr.* p. 34 (1857, pt.); *Schl. Mus. Pays-Bas*, Alced. p. 5 (1863); *Sharpe, Ibis*, 1869, p. 281; *id. Monogr. Alced.* p. 25 (1870, pt.); *Büttik. Notes Leyden Mus.* viii. p. 248 (1886), x. p. 71 (1888).

Adult. Similar to *A. quentheri*, but having the back uniform purplish blue instead of shining cobalt. Total length 6·8 inches, culmen 1·9, wing 3·3, tail 1·5, tarsus 0·4.

Hab. West Africa, from Senegambia to the Gold Coast.

a. Ad. sk.	Gold Coast (*Kirby*).	Shelley Coll.
b, *c*. Ad. sk.	Gold Coast (*A. Swanzy*).	Tweeddale Coll.
d. Ad. sk.	[Sierra Leone.]	Sir E. Sabine [P.].
e. Ad. sk.	River Gambia.	Sharpe Coll.

8. Alcedo meninting.

Alcedo meninting, *Horsf. Trans. Linn. Soc.* xiii. p. 172 (1821); *Temm. Pl. Col.* iv. p. 239. fig. 2 (1823); *Blyth, J. A. S. Beng.* xv. p. 12 (1846); *Gray, Gen. B.* i. p. 81 (1847); *Kaup, Fam. Alced.* p. 16 (1848); *Blyth, Cat. B. Mus. As. Soc.* p. 49 (1849); *Bp. Consp.* i. p. 158 (1850); *Moore, P. Z. S.* 1854, p. 269; *Horsf. & Moore, Cat. B. Mus. E.I. Co.* i. p. 130 (1854); *Reichenb. Handb., Alced.* p. 4, Taf. 394. figs. 3050–51 (1851); *Cass. Cat. Halc. Philad. Mus.* p. 3 (1852); *Bp. Consp. Volucr. Anis.* p. 10 (1854); *Cab. & Heine, Mus. Hein.* Th. ii. p. 144 (1860); *Wall. P. Z. S.* 1863, p. 484; *Schl. Mus. Pays-Bas*, Alced. p. 9 (1863); *id. Vog. Nederl. Ind., Alced.* pp. 6, 44, pl. 3 (1864); *Gray, Hand-l. B.* i. p. 95, no. 1154 (1869); *Salvad. Ucc. Born.* p. 93 (1874); *Sharpe,*

P. Z. S. 1875, p. 101; *Salvad. Ann. Mus. Civic. Genov.* vii. p. 652 (1875); *Tweedd. Ibis*, 1877, p. 297; *Hume & Davison, Str. F.* vi. p. 83 (1878); *Sharpe, P. Z. S.* 1879, p. 329; *id. Ibis*, 1879, p. 248; *Hume, Str. F.* viii. pp. 50, 86 (1879); *Salvad. Ann. Mus. Civ. Genov.* xiv. p. 193 (1879); *Vorderm. Nat. Tijdschr. Nederl. Ind.* xli. p. 185 (1881); *Kelham, Ibis*, 1881, p. 381; *A. Müll. J. f. O.* 1882, p. 397; *Blasius, J. f. O.* 1883, pp. 213, 215; *Nichols. Ibis*, 1883, p. 89; *Blasius, Zeitschr. ges. Orn.* iii. p. 94 (1886); *Vorderm. Nat. Tijdschr. Nederl. Ind.* xlvi. p. 11 (1886), xlix. p. 393 (1889); *Blasius, Ornis*, 1888, p. 307; *Sharpe, Ibis*, 1890, pp. 18, 283.

Alcedo asiatica, *Swains. Zool. Illustr.* 1st ser. i. pl. 50 (1821); *Sharpe, Ibis*, 1869, p. 281; *id. Monogr. Alced.* p. 25, pl. 5 (1870); *Wald. Ibis*, 1872, p. 368; *Hume, Str. F.* i. p. 450 (1873); *Meyer, Ibis*, 1879, p. 64; *Guillem. P. Z. S.* 1885, p. 255; *Sharpe, Ibis*, 1888, p. 197; *Everett, P. Z. S.* 1889, p. 226; *id. Journ. Straits Branch R. As. Soc.* 1889, p. 159; *Whitehead, Ibis*, 1890, p. 45.

Ceyx meninting, *Cuvier, Règne Anim.* i. p. 444 (1829).

Alcedo bengalensis (*nec Gm.*), *Less. Traité*, p. 243 (1831, pt.).

Alcedo verreauxi, *De la Berge, Rev. Zool.* 1851, p. 305, pl. 9; *Reichenb. Handb., Alced.* p. 5, Taf. 403. fig. 3173 (1851); *Blyth, Ibis*, 1866, p. 348; *Gray, Hand-l. B.* i. p. 95, no. 1155 (1869).

Adult male (type of species). General colour above rich purplish blue; the entire back brilliant cobalt, changing to deeper blue on the lower rump and upper tail-coverts; wing-coverts black, washed with purplish blue, with a small spot of brighter blue near the end of each feather; quills black, the secondaries externally purplish blue like the scapulars; tail black, washed with purplish blue; crown of head black, barred across with purplish blue rather brighter than the shade of the back; the hind neck beautiful purplish blue, with the black cross bars more or less obsolete; lores blackish, with a rufous supraloral streak; sides of face, ear-coverts, and cheeks purplish blue like the crown, the feathers mottled with black bases; behind the ear-coverts a broad band of white tinged with ochreous buff; throat white with a rufous wash; rest of under surface of body from the lower throat downwards chestnut-rufous, with a patch of purplish-blue lilac-tinged feathers on each side of the upper breast; under wing-coverts chestnut-rufous, a little paler than the breast: "bill blackish brown; feet coral-red; iris brown" (*A. Everett*). Total length 5·3 inches, culmen 1·65, wing 2·55, tail 1·05, tarsus 0·35.

Adult female. Exactly resembles the male in colour, and has even the cheeks blue like the male. It appears, however, always to have the bill more or less red, and generally the greater part of the lower mandible is rufous. Total length 5·5 inches, culmen 1·65, wing 2·6, tail 1·05, tarsus 0·25.

It would seem that my former surmise in the 'Monograph,' that the female differed from the male in having rufous cheeks, was a mistake. This character is a sign apparently of young females only. Not only does the Hume Collection contain several specimens carefully determined by Mr. Davison as "females," which have blue cheeks like the male, but Sir Hugh Low sent me a hen bird captured on the nest which has the cheeks entirely blue; and this seems to

settle the point. The same excellent observer also forwarded a nestling which has a black bill with an ivory-white tip, and from an examination of several nestlings it appears that in some at least the sides of the face are blue, though the majority of young birds have rufous cheeks and ear-coverts and generally a reddish bill. These are probably young females, and in their case it is evident that the blue colour on the sides of the face is gradually assumed, as many of them have the cheeks and ear-coverts rufous sprinkled with spots of blue. The scapulars are black in the young birds, as are also the feathers on the sides of the upper breast, and the blue on the back is more silvery cobalt.

Hab. From Southern Tenasserim down the Malayan Peninsula to Java, Sumatra, Borneo, Palawan, and Celebes.

a. ♂ ad. sk.	[Pothanore, Madras, Oct. 13 (*G. R. Theobald*).]*	Hume Coll.
b. ♂ ad.; *c*. ♀ imm. sk.	Bankasoon, Tenasserim, June (*W. Davison*).	Hume Coll.
d. ♀ ad. sk.	Kossoum, Upper Malay Peninsula, Aug. 22 (*J. Darling*).	Hume Coll.
e. ♀ ad. sk.	Salang, March 26 (*J. D.*).	Hume Coll.
f. ♂ ad. sk.	Poungyah, July 29 (*J. D.*).	Hume Coll.
g, *h*, *i*. ♂; *j*. ♀ ad. sk.	Klang, March, April, July (*W. Davison*).	Hume Coll.
k, *l*. Ad. sk.	Penang.	Seebohm Coll.
m. Juv. sk.	Penang (*A. R. Wallace*).	Gould Coll.
n. Ad. sk.	Penang (*A. R. W.*: *Sharpe Coll.*).	Tweeddale Coll.
o, *p*. ♀ ad. et imm. sk.	Malacca (*Dr. Cantor*).	India Museum.
q, *r*. Imm. sk.	Malacca.	Pinwill Coll.
s. Ad. sk.	Malacca (*A. R. W.*: *Sharpe Coll.*).	Tweeddale Coll.
t, *u*. Ad. et imm. sk.	Malacca (*Dr. Maingay*).	Tweeddale Coll.
v–*b'*. Ad. et imm. sk.	Malacca, July to Sept. (*W. Davison*).	Hume Coll.
c'. ♂ imm. sk.	Mount Ophir.	Wallace Coll.
d', *e'*. Ad. sk.	Singapore.	Gould Coll.
f'. ♀ imm. sk.	Singapore Island, Aug. 2 (*W. D.*).	Hume Coll.
g', *h'*. ♂ ad. sk.	Johore, March (*W. D.*).	Hume Coll.
i', *k'*. Ad. et imm. sk.	Padang, Sumatra (*Leyden Mus.*).	Gould Coll.
l', *m'*. Ad. sk.	Lampong, S.E. Sumatra (*E. C. Buxton*).	Tweeddale Coll.
n'. Ad. sk.	Sumatra (*Carl Bock*).	Tweeddale Coll.
o'. ♂ imm. sk.	Sumatra (*A. R. Wallace*).	Gould Coll.
p'. Imm. sk.	East Java (*A. R. W.*).	Tweeddale Coll.
q', *r'*. Ad. sk.	Java (*Dr. Horsfield*).	India Museum.

(Type of species.)

* This specimen seems to me to be a skin of Malaccan make, and it bears on the label the name of *Alcedo bengalensis*. I therefore think that the ticket has been changed by some accident, and that the skin never really came from Madras. If it was procured in the latter locality, the fact is most extraordinary, as the bird is undoubtedly a true *A. meninting*, and not *A. beavani*.

s'–v'. Imm sk.	Soerabaya, Java (*W. T. Fraser*: *Sharpe Coll.*).	Tweeddale Coll.
w'. Ad. sk.	West Java (*A. R. Wallace*: *Sharpe Coll.*).	Tweeddale Coll.
x', *y'*. Ad. sk.; *z'*, *a''*. Imm. sk.	Labuan (*Sir Hugh Low*).	Sharpe Coll.
b''. Ad. sk.	Labuan (*J. Motley*).	Tweeddale Coll.
c''. Ad. sk.	Lumbidan (*Sir H. Low*).	Tweeddale Coll.
d''. ♀ imm. sk.	Sarawak (*A. R. Wallace*).	Tweeddale Coll.
e''. Imm. sk.	Sarawak (*H. Everett*).	Tweeddale Coll.
f'', *g''*. ♂ juv. sk.	Marup, Sarawak (*A. Everett*).	Tweeddale Coll.
h''. Ad. sk.	Banjarmassing (*J. Motley*).	Tweeddale Coll.
i'', *k''*. Imm. sk.	Lombock.	Wallace Coll.
l''. ♂ juv. sk.	Lombock (*A. R. Wallace*).	Gould Coll.
m''. ♂ ad. sk.	Lombock (*A. R. W.*).	Tweeddale Coll.
n''. Skeleton.	Java.	Purchased.

9. Alcedo beavani.

Alcedo meninting (*nec Horsf.*), *Beavan, Ibis*, 1867, p. 319; *Blanf. Ibis*, 1870, p. 465; *Oates, Str. F.* v. p. 143 (1877); *Hume & Davison, Str. F.* vi. p. 84 (1878); *Brooks, Str. F.* viii. p. 468 (1879); *Salvad. Ann. Mus. Civic. Genov.* (2) iv. p. 584 (1887).

Alcedo asiatica (*nec Swains.*), *Ball, Str. F.* i. p. 59 (1873); *Hume, Str. F.* ii. p. 174 (1874); *Ball, Str. F.* iii. p. 289 (1875); *Blyth & Wald. B. Burm.* p. 71 (1875); *Hume, Str. F.* iv. p. 383 (1876); *Oates, Handb. B. Br. Burm.* ii. p. 73 (1883); *id. ed. Hume's Nests & Eggs Ind. B.* iii. p. 6 (1890).

Alcedo rufigastra, *Walden, Ann. & Mag. N. H.* (4) xii. p. 487 (1873); *id. Ibis*, 1874, p. 136.

Alcedo beavani, *Walden, Ann. & Mag. N. H.* (4) xiv. p. 158 (1874); *id. Ibis*, 1875, p. 461; *Godw.-Aust. J. A. S. Beng.* xlv. p. 193 (1876); *Hume, Str. F.* iv. p. 287 (1876), vii. p. 204 (1878); *id. & Davison, Str. F.* vi. p. 84 (1878); *Hume, Str. F.* viii. p. 86 (1879), ix. p. 247 (1880); *Butler, t. c.* p. 383; *id. Cat. B. S. Bomb. Pres.* p. 20 (1880); *Davison, Str. F.* x. p. 383 (1887).

Adult male. Similar to *A. meninting* in general appearance, but with the blue on the upper parts very bright, the bars on the head and sides of face also brilliant blue; the bright blue spots on the wing-coverts always distinguish the species: "bill black, orange at gape; feet vermilion; iris brown" (*W. Davison*). Total length 5·7 inches, culmen 1·6, wing 2·7, tail 1·1, tarsus 0·35.

Adult female. Similar to the male in colour, but having the under mandible red. Total length 6 inches, wing 2·7, tail 1·2, tarsus 0·35.

Hab. Southern and Central India to the Eastern Himalayas, eastwards to Assam, Tenasserim, and Cochin China. Andaman Islands.

a. ♂ ad. sk.	Mynall, Travancore (*F. Bourdillon*).	Hume Coll.
b. ♀ ad. sk.	Belgaum (*A. E. Butler*).	Hume Coll.

c. Ad. sk.	Maunbhoom, Feb. (*R. C. Bearan*).	Tweeddale Coll.
d. Ad. sk.	"Salbaree," Dec. (*A. Anderson*).	Seebohm Coll.
e. ♀ ad. sk.	Rajmehal Hills, Nov. (*V. Ball*).	Hume Coll.
f. ♂ ad. sk.	Darjiling Terai.	Hume Coll.
g, h. Ad. sk.	Bhutan Dooars, Feb., May (*L. Mandelli*).	Hume Coll.
i. ♂ ad. sk.	Dibrughur, March 14 (*J. R. Cripps*).	Hume Coll.
k, l. ♂ juv. sk.	Assam, Jan. (*A. W. Chennell*).	Tweeddale Coll.
m, n. Ad. sk.	Dilkusha, Cachar, Sept. (*J. Inglis*).	Hume Coll.
o. ♀ ad. sk.	South Andaman, Sept. 23 (*De Roepstorff*).	Hume Coll.
p–x. ♂ ad. et juv.; *y, z, a'.* ♀ ad. sk.	South Andaman, April, May, Aug. to Dec. (*W. Davison*).	Hume Coll.
b'. ♀ ad. sk.	Port Blair, May (*W. D.*).	Hume Coll.
c'. ♂ ad. sk.	Aberdeen, May (*W. D.*).	Hume Coll.
d', e', f'. ♂ ad. sk.	South Andaman, Feb., March (*R. G. W. R.*).	Tweeddale Coll. (Types of species.)
g'. ♂ ad. sk.	Andamans, Sept. (*R. J. Wimberley*).	Hume Coll.
h'. ♂ ad. sk.	Tonghoo, Feb. 17 (*R. G. W. R.*).	Tweeddale Coll.
i'. ♂ ad. sk.	Irawady Delta, June 7 (*A. L. Hough*).	Hume Coll.
k'–o'. ♂ ad. et juv.; *p'.* ♀ ad. sk.	Lower Pegu, June to Sept. (*E. W. O.*).	Oates Coll.
q'. ♂ ad.; *r'.* ♀ juv. sk.	Amherst, July, Sept. (*W. D.*).	Hume Coll.
s'. ♂ ad. sk.	Yea, April (*W. D.*).	Hume Coll.
t'. ♂ ad. sk.	Moulmein, July (*W. D.*).	Hume Coll.
u', v'. ♂ ad. sk.	Tavoy, March (*W. D.*).	Hume Coll.
w'. ♂ ad. sk.	Younzaleen River, March 30.	Major T. C. Bingham.
x'. ♂ ad. sk.	Malawoon, Feb. 22.	Oates Coll.
y'. ♀ ad. sk.	Malawoon, April (*W. D.*).	Hume Coll.
z'–d''. ♂ ad.; *e''–i''.* ♀ ad. sk.	Bankasoon, April, May, June (*W. D.*).	Hume Coll.
k''. ♂ ad. sk.	Cochin China.	Tweeddale Coll.
l''. Juv. sk.	Celebes.	Gould Coll.
m''. ♀ ad. sk.	Makassar (*A. R. Wallace*).	Tweeddale Coll.
n''. ♀ ad. sk.	Togian Islands (*A. B. Meyer*).	Tweeddale Coll.

10. **Alcedo beryllina.**

Le Petit Martin-pêcheur aigue-marin, *Temm. Cat. Syst.* p. 213 (1807).

Alcedo beryllina, *Vieill. N. Dict. d'Hist. Nat.* xix. p. 414 (1818); *Cassin, Cat. Halcyon. Philad. Mus.* p. 2 (1852); *Schl. Mus. Pays-Bas*, Alced. p. 11 (1863); *id. Vog. Nederl. Ind.* pp. 8, 45, pl. 3. fig. 1 (1864); *Gray, Hand-l. B.* i. p. 95, no. 1158 (1869); *Sharpe, Monogr. Alced.* p. 31, pl. 9 (1869); *Vorderm. N. T. Nederl. Ind.* xlix. p. 394 (1889).

Alcedo cærulescens (*nec Gm.*), *Vieill. N. Dict. d'Hist. Nat.* xix. p. 401 (1818); *id. Enc. Méth.* i. p. 394 (1823); *Gray, Gen. B.* i.

p. 81 (1847); *Pucher. Rev. Zool.* 1853, p. 389; *Bp. Consp. Vol. Anis.* p. 10 (1854); *Hartl. J. f. O.* 1855, p. 423.

Alcedo biru, *Horsf. Trans. Linn. Soc.* xiii. p. 172 (1821); *id. Zool. Research. Java*, p. 55 (1824); *Temm. Pl. Col.* iv. pl. 239. fig. 1 (1823); *Blyth, J. A. S. Beng.* xv. p. 12 (1846); *Gray, Gen. B.* i. p. 81 (1847); *id. List Fissir. Brit. Mus.* p. 63 (1848); *Blyth, Cat. B. Mus. As. Soc.* p. 50 (1849); *Bp. Consp.* i. p. 158 (1850); *Horsf. & Moore, Cat. B. Mus. E.I. Co.* i. p. 130 (1854); *Wallace, P. Z. S.* 1863, p. 484.

Alcyone beryllina, *Tristr. Ibis*, 1882, p. 135.

Adult male. General colour above bright greenish blue, barred with black on the head; the entire back rich silvery cobalt, somewhat deeper blue on the rump; wing-coverts greenish blue, broadly edged with greenish cobalt of a brighter tint, each margin with a median streak of silvery blue; quills blackish, externally greenish blue; tail blue above, whiter on the inner web and at the base; lores dull greenish blue, surmounted by a large spot of white; ear-coverts deep blue; cheeks lighter and more beryl-blue; throat, abdomen, and under tail-coverts pure white, with a broad pectoral band of bright greenish blue, this colour extending down the sides of the body; under wing-coverts and quill-lining white. Total length 5 6 inches, culmen 1·4, wing 2·4, tail 1, tarsus 0·3.

Adult female. Similar to the male in colour, but a trifle less blue, and having a somewhat narrower pectoral band, broken on its upper margin by white mottlings. Total length 5·2 inches, culmen 1·3, wing 2·35, tail 0·95, tarsus 0·3.

Hab. Java: Lombock.

a. Ad. sk.	Java (*Dr. Horsfield*).	India Museum. (Type of *A. biru*.)
b, *c*, *d*. Ad. sk.	Soerabaya, Java (*W. T. Fraser*: *Sharpe Coll.*).	Tweeddale Coll.
e. ♂ ad. sk.	E. Java.	Wallace Coll.
f, *g*. ♂ ♀ ad. sk.	Lombock.	Wallace Coll.
h. Ad. st.	Java.	India Museum.

4. CORYTHORNIS.

Type.

Corythornis, *Kaup, Fam. Eisv.* p. 10 (1848) ..... C. galerita.

Range. Africa and Madagascar.

Key to the Species.

a. Bill black ..... *cristata*, p. 162.
b. Bill coral-red.
  a'. Crest long and malachite-green ..... *cyanostigma*, p. 163.
  b'. Crest short, ultramarine-blue ..... *galerita*, p. 166.

1. Corythornis cristata.

The Crested Kingfisher, *Edwards, Gleanings*, pt. iii. p. 264, pl. 336 (1764: Island of Joanna).

Le Martin-Pescheur huppé des Philippines, *Briss. Orn.* iv. p. 483, pl. xxxvii. fig. 3 (1760).

Alcedo cristata, *Linn. S. N.* i. p. 178 (1766); *Gm. Syst. Nat.* i. p. 447 (1788); *Cuv. Règne Anim.* p. 417 (1817); *Vieill. N. Dict. d'Hist. Nat.* xix. p. 414 (1818); *Bp. Consp.* i. p. 159 (1850); *Pucher. Rev. Zool.* 1861, p. 337; *Sharpe, Ibis*, 1869, p. 279.

Crested Kingfisher, *Lath. Gen. Syn.* i. pt. 2, p. 632 (1782).

Alcedo vintsioides, *Eyd. & Gerv. Rev. et Mag. de Zool.* 1836, p. 30, pl. 74; *iid. Voy. Favorite, Ois.* p. 56, pl. 22 (1839); *Gray, Gen. B.* i. p. 81 (1847); *id. Cat. Fissir. Brit. Mus.* p. 65 (1848); *Kaup, Fam. Alced.* p. 12 (1848); *Bp. Consp.* i. p. 159 (1850); *Pollen, Nederl. Tijdschr. Dierk.* p. 310 (1863); *Schl. Mus. Pays-Bas*, Alced. p. 12 (1863); *id. P. Z. S.* 1866, p. 421; *Grand. Rev. et Mag. de Zool.* 1867, p. 355; *Schl. & Poll. Faune Madag., Ois.* p. 59 (1868); *Gray, Hand-l. B.* i. p. 96, no. 1168 (1869).

Corythornis vintsioides, *Reichenb. Handb., Alced.* p. 19, Taf. 391. figs. 3404–5, Taf. 396. fig. 3059 (1851); *Cass. Cat. Halcyon. Philad. Mus.* p. 7 (1852); *Bp. Consp. Volucr. Anis.* p. 10 (1854); *Roch & E. Newt. Ibis*, 1862, p. 271; *Scl. P. Z. S.* 1863, p. 162; *E. Newt. Ibis*, 1863, p. 341; *A. Newt. P. Z. S.* 1865, p. 834; *Cab. in Von der Decken's Reis.* p. 36 (1869); *Sharpe, Ibis*, 1869, p. 280; *id. Monogr. Alced.* p. 33, pl. 10 (1869); *Bartlett, P. Z. S.* 1879, p. 771.

Corythornis cristata, *Sharpe, P. Z. S.* 1869, p. 568, 1870, p. 398; *id. Monogr. Alced., Intr.* p. vi (1871); *id. Cat. Afr. B.* p. 6 (1871); *Bartlett, P. Z. S.* 1875, p. 65; *Hartl. Vög. Madag.* p. 78 (1877); *E. Newt. P. Z. S.* 1877, p. 297; *Milne-Edwards & Grand. Hist. Nat. Madag.* p. 255, pl. 90. fig. 2 (1879).

Adult. Crown of head crested, the feathers being dusky green, with black shafts and a bar of black near the tip; sides of head, back of neck, and rest of upper surface of body brilliant ultramarine; wing-coverts black, washed and spotted with ultramarine; quills blackish, the inner webs bright rufous at the base, the secondaries externally washed with ultramarine; tail blue above, black beneath; chin and a longitudinal patch of feathers along the sides of the back pure white; cheeks and rest of the under surface of body cinnamon-rufous: "bill black; feet orange; iris brown" (*A. Grandidier*). Total length 5·3 inches, culmen 1·2, wing 2·3, tail 1, tarsus 0·25.

Hab. Madagascar and the Comoro Islands.

a, b. Ad. sk.	N. Madagascar (*A. Crossley*).	Shelley Coll.
c, d. Ad. sk.	Madagascar.	Sharpe Coll.
e, f. Ad. sk.	Central Madagascar.	Seebohm Coll.
g. ♀ ad. sk.	Mayotte, May 19 (*Van Dam*).	Tweeddale Coll.
h. Ad. sk.	[Joanna Island.]	Sir J. Kirk [C.].
i–k. Ad. sk.	Joanna Island (*Sir J. Kirk*).	Shelley Coll.
l. Skeleton.	Madagascar.	Purchased.

2. Corythornis cyanostigma.

Le Vintsi, *Buff. Hist. Nat. Ois.* vii. p. 205 (1780).

Petit Martin-pêcheur huppé de l'isle de Luçon, *Daubent. Pl. Enl.* viii. pl. 756. fig. 1.

Alcedo cristata (*nec L.*), *Küttl. Kupf. Vög.* pl. 29. fig. 3 (1833); *Des Murs in Lefebvre, Voy. Abyss.* p. 82 (1845); *Gray, Gen. B.* i. p. 81 (1847); *id. Cat. Fissir. Brit. Mus.* p. 64 (1848); *Bp. Consp.* i. p. 159 (1850); *Hartl. Orn. Westafr.* p. 36 (1857); *Schl. Mus. Pays-Bas*, Alced. p. 11 (1863); *Kirk, Ibis*, 1864, p. 325; *Layard, B. S. Afr.* p. 65 (1867); *Heugl. Orn. N.O.-Afr.* i. p. 180 (1869); *Gray, Hand-l. B.* i. p. 96, no. 1166 (1869); *Finsch & Hartl. Vög. Ostafr.* p. 167 (1870); *Reichen. J. f. O.* 1877, p. 20; *Cab. J. f. O.* 1878, p. 235; *Fischer & Reich. t. c.* p. 255; *Fischer, t. c.* p. 285; *id. J. f. O.* 1879, p. 293; *Reichen. J. f. O.* 1887, p. 307.

Alcedo cyanostigma, *Rüpp. Neue Wirb., Vög.* p. 70, pl. 24. fig. 2 (1835–40); *Guér. & Lafr. in Ferr. & Galin. Voy. Abyss.* iii. p. 248 (1847); *Gray, Gen. B.* i. p. 81 (1847); *Heugl. Syst. Uebers.* p. 18 (1856); *Gray, Cat. Fis ir. Brit. Mus.* p. 64 (1848); *Bp. Consp.* i. p. 164 (1850); *Schl. Mus. Pays-Bas*, Alced. p. 11 (1863); *Antin. Cat. descr. Ucc.* p. 29 (1864); *Hartm. J. f. O.* 1864, p. 226, 1865, p. 203; *Chapm. Trav. S. Afr.* ii. App. p. 409 (1868); *Heugl. Orn. N.O.-Afr.* i. p. 182 (1869); *Büttik. Notes Leyden Mus.* x. p. 70 (1883); *Shelley, Ibis*, 1883, p. 297.

Alcedo cyanostigmata, *Des Murs in Lefebvre's Voy. Abyss.* p. 81 (1845).

Alcedo cæruleocephala (*nec Gm.*), *Gray, Cat. Fissir. Brit. Mus.* p. 64 (1848, spec. exam.).

Corythornis cristata, *Kaup, Fam. Eisv.* p. 13 (1848): *Reichenb. Handb., Alced.* p. 18, Taf. 403. figs. 3176–77 (1851); *Cass. Cat. Halcyon. Philad. Mus.* p. 4 (1852); *Bp. Consp. Volucr. Anis.* p. 10 (1854); *Verr. Rev. et Mag. de Zool.* 1856, p. 353; *Gurney, Ibis*, 1859, p. 245; *Cab. & Heine, Mus. Hein.* Th. ii. p. 146 (1860); *Hartl. J. f. O.* 1861, p. 105; *Scl. P. Z. S.* 1866, p. 22; *Sharpe, Ibis*, 1869, pp. 280, 283; *id. Monogr. Alced.* p. 35, pl. 11 (1869); *Ayres, Ibis*, 1873, p. 201; *Sharpe & Bouvier, Bull. Soc. Zool. France*, i. p. 39 (1876); *Ayres, Ibis*, 1879, p. 291; *Hartl. Abhandl. nat. Verein Bremen*, vii. p. 110 (1881); *Holub & Von Pelz. Beitr. Orn. Südafr.* p. 63 (1882); *Fischer, Zeitsch. ges. Orn.* i. p. 361 (1884); *id. J. f. O.* 1885, p. 126; *Matschie, J. f. O.* 1887, pp. 140, 151.

Corythornis cyanostigma, *Kaup, Fam. Eisv.* p. 13 (1848); *Reichenb. Handb., Alced.* p. 19, Taf. 395. figs. 3057–58 (1851); *Cass. Cat. Halcyon. Philad. Mus.* p. 4 (1852); *Sharpe, Monogr., Intr.* p. vi (1871); *Buckley, Ibis*, 1874, p. 364; *Ussher, t. c.* p. 50; *Shelley, Ibis*, 1875, p. 68; *Sharpe, ed. Layard's B. S. Afr.* pp. 108, 806 (1875–84); *Barratt, Ibis*, 1876, p. 198; *Ayres, t. c.* p. 425; *Bocage, Orn. Angola*, p. 96 (1877); *Oustalet, N. Arch. Mus.* (2) ii. *Bull.* p. 72 (1879); *Sharpe, in Oates' Matabele-Land*, App. B, p. 303 (1881); *Shelley, P. Z. S.* 1881, p. 567; *id. Ibis*, 1882, p. 244; *id. Ibis*, 1883, p. 556; *Büttik. Notes Leyden Mus.* v. p. 70 (1883); *Salvad. Ann. Mus. Civ. Genov.* (2) i. p. 112 (1884); *Hartert, J. f. O.* 1886, p. 594; *Büttik. Notes Leyden Mus.* vii. p. 159 (1885), viii. p. 248 (1886), x. p. 70 (1888); *Souza, Jorn. Lisb.* 1886, p. 156; *Symonds, Ibis*, 1887, p. 327; *Salvad. Ann. Mus. Civic. Genov.* (2) vi. p. 222 (1888).

Alcedo hartlaubi, *Gray, Hand-l. B.* i. p. 96, no. 1167 (1869).

Alcedo (Corythornis) cyanostigma, *Oust. Bibl. Haut Etudes*, xxxi. Art. 10, p. 4 (1886).

Adult male. Head with a malachite-green crest, each feather being greenish blue with a black shaft, and crossed by two black bands, the tip of the feather being black preceded by a band of

blue; the feathers at the sides of the crest elongated and broader; sides of the head and entire upper surface of the body rich ultramarine; wing-coverts blackish washed with blue; quills brownish black, the secondaries edged with faint ultramarine; tail ultramarine above, black beneath; chin and a longitudinal patch of feathers along the sides of the neck white; cheeks, ear-coverts, and rest of the under surface of the body rich rufous: "bill brilliant coral-red, slightly shaded with black towards the nostrils and at the base of the lower mandible: feet coral-red; iris dark brown" (*G. E. Shelley*). Total length 5 inches, culmen 1·3, wing 2·4, tail 1·1, tarsus 0·25.

Young female. Head crested, dusky greenish, with very broad black shafts and bands, the feathers on the nape with a slight silvery lustre: back and scapulars light brown, with light cobalt bars; back ultramarine washed with cobalt; tail ultramarine above, brown beneath; quills light brown, the inner web light rufous from the base, the outer web edged with light ultramarine; lores light rufous: cheeks rufous, with little black markings; throat and a patch of feathers along the sides of the neck yellowish white; under surface of the body pale rufous, lighter down the centre of the body: bill and feet blackish, tinged slightly with red: "bill black; feet brownish, soles red; iris brown" (*W. A. Forbes*). Total length 5 inches, culmen 1·3, from gape 1·75, wing 2·4, tail 1·1, tarsus 0·25.

Very young. Similar to the last, but the plumage much darker brown, the bars of blue being narrower, and those on the head darker; the bars of cobalt on the wing-coverts and scapulars very distinct, upper part of the breast marked with a darkish brown line. Total length 4·3 inches, culmen 0·8, wing 2, tail 1·65, tarsus 0·2.

Hab. The whole of Tropical Africa; the specimens from South Africa being larger than those from Western or North-eastern Africa.

a. Ad. sk.	Abyssinia.	Purchased.
b. ♂ ad. sk.	Agula, Tigré, May 16.	W. T. Blanford, Esq. [P.].
c. Ad. sk.	Sudan (*Knoblecker*).	Sharpe Coll.
d. Ad. sk.	White Nile.	Sharpe Coll.
e. Juv. sk.	White Nile.	Gould Coll.
f. ♂ ad. sk.	Senegambia (*Sharpe Coll.*).	Tweeddale Coll.
g, h. Ad. et juv. sk.	Bissao (*Beaudouin*).	Sharpe Coll.
i. Imm. sk.	Ashantee.	Gould Coll.
k, l. Ad. et juv. sk.	Ashantee.	J. Gould, Esq. (Types of *A. hartlaubi.*)
m. Ad. sk.	Elmina, April (*H. F. Blissett*).	Sharpe Coll.
n–r. Ad. sk.	Fantee (*Gov. Ussher*).	Shelley Coll.
s. Ad. sk.	Lagos.	Gould Coll.
t. Imm. sk.	Shonga, R. Niger (*W. A. F.*).	Shelley Coll.
u. ♀ ad. sk.	Kingwilliamstown, Gaboon, June 3 (*J. A. Skertchley*).	Sharpe Coll.
v. Juv. sk.	R. Ogowé, Gaboon.	H. T. Ansell, Esq. [P.].

w, *x*. Pull. et juv. sk.	Landana, Congo (*Dr. Lucan*).	Shelley Coll.
y. Ad. sk.	Quilombo, Angola (*A. Heath*).	Sharpe Coll.
z. Juv. st.	Cape of Good Hope.	Hardwicke Coll.
a'. Ad. sk.	Cape of Good Hope.	Sharpe Coll.
b'. Ad.; *c'*, *d'*. Juv. sk.	Cape Colony (*E. L. Layard*).	Sharpe Coll.
e'. Juv. sk.	Cape Colony (*E. L. L.*: *Sharpe Coll.*).	Tweeddale Coll.
f', *g'*. Ad. et juv. sk.	Cape Colony (*Butler*).	Shelley Coll.
h'. ♂ ad. sk.	Eland's Post (*T. C. Atmore*).	Shelley Coll.
i', *k'*. Ad. et imm. sk.	Natal (*T. Ayres*).	Gould Coll.
l'. Ad. sk.	Natal.	T. Ayres [C.].
m', *n'*, *o'*. Ad. sk.	Durban (*Gordge*).	Shelley Coll.
p', *q'*. Ad. sk.	Upper Umlaas River (*Gordge*).	Shelley Coll.
r'. Ad. sk.	Newcastle, Natal, June 4 (*E. A. Butler*).	Shelley Coll.
s'. ♀ ad. sk.	Transvaal, June 19 (*T. Buckley*).	Shelley Coll.
t'. ♂ ad. sk.	Transvaal.	J. Foresman, Esq. [P.].
u'. ♂ ad.; *v'*. ♀ juv. sk.	Potchefstroom, March, Nov. (*T. Ayres*).	Gurney Coll.
w'. Ad. sk.	Sibanane, Dec. 11 (*F. Oates*).	W. E. & C. G. Oates, Esqrs. [P.].
x'. Imm. sk.	Zambesi (*Sharpe Coll.*).	Tweeddale Coll.
y'. Imm. sk.	Zambesi.	Sharpe Coll.
z'. Ad. sk.	Zambesi (*Sir J. Kirk*).	Livingstone Expedition.
a''. Ad. sk.	Lake Nyassa (*Sir J. Kirk*).	Livingstone Expedition.
b''. Ad. sk.	Usambara Hills, E. Africa (*Sir J. Kirk*).	Shelley Coll.
c'', *d''*. Ad.; *e''*, *f''*. Imm. sk.	Lamu.	F. J. Jackson, Esq. [P.].

3. Corythornis galerita.

Martin-Pêcheur de Sénégal, *Daubent. Pl. Enl.* viii. pl. 356. fig. 1.

Alcedo galerita, *P. L. S. Müll. Syst. Nat. Suppl.* p. 94; *Cass. Proc. Philad. Acad.* 1864, p. 243; *Gray, Hand-l. B.* i. p. 96, no. 1165 (1869).

Martin-Pêcheur à tête bleue, *Buff. Hist. Nat. Ois.* vii. p. 198 (1780).

Blue-headed Kingfisher, *Lath. Gen. Syn.* pt. 2, p. 631 (1782).

Alcedo cæruleocephala, *Gm. S. N.* i. p. 449 (1788); *Gray, Gen. B.* i. p. 81 (1847); *Kaup, Fam. Eisv.* p. 13 (1848); *Bp. Consp.* i. p. 159 (1850); *Hartl. Orn. W.-Afr.* p. 36 (1857); *Schl. Mus. Pays-Bas*, Alced. p. 11 (1863); *Keulem. Ned. Tijdschr. Dierk.* iii. p. 377 (1866).

Alcedo cyanocephala, *Shaw, Gen. Zool.* viii. p. 109 (1812); *Heugl. Orn. N.O.-Afr.* i. p. 181 (1869); *Finsch & Hartl. Vög. Ostafr.* p. 169 (1870).

Alcedo nais, *Kaup, Fam. Eisv.* p. 12 (1848); *Gray, Cat. Fissir. Brit. Mus.* p. 64 (1848); *Bp. Consp.* i. p. 159 (1850); *Hartl. Orn. W.-Afr.* p. 37 (1857); *Finsch & Hartl. Vög. Ostafr.* p. 168, note (1870).

Corythornis cæruleocephala, *Blyth, Cat. B. Mus. As. Soc.* p 50 (1849); *Reichenb. Handb., Alced.* p. 18, Taf. 397. figs. 3063, 3063*b*, 3387 (1851); *Cass. Cat. Halcyon. Philad. Mus.* p. 4 (1852); *id. Proc. Philad. Acad.* 1859, p. 34; *Hartl. J. f. O.* 1861, p. 105; *Bp. Consp. Volucr. Anis.* p. 10 (1854); *Dohrn, P. Z. S.* 1866, p. 325; *Sharpe, Monogr. Alced.* p. 39, pl. 12 (1869); *Souza, Jorn. Lisb.* xlvii. p. 156 (1888); *Bocage, op. cit.* xlviii. p. 211 (1888).

Corythornis nais, *Bp. Consp. Volucr. Anis.* p. 10 (1854); *Hartl. J. f. O.* 1861, p. 105.

Corythornis cyanocephala, *Cab. & Heine, Mus. Hein.* Th. ii. p. 145 (1860).

Corythornis galerita, *Sharpe, Monogr. Alced., Intr.* p. vii (1871).

Adult. Head brilliant blue, with a long crest, each feather of which is blue with a black shaft and crossed by two black bands near the tip; sides of the head and rest of the upper surface of the body ultramarine; wing-coverts black, spotted with ultramarine; quills blackish, the inner webs pale rufous at the base, the secondaries edged with ultramarine; tail blackish, with a tinge of ultramarine above; throat and a patch of feathers along the sides of the neck white; lores, cheeks, and the rest of the under surface of the body rich cinnamon-rufous, paler in very old birds: bill and feet coral-red; eyes dark brown. Total length 5 inches, culmen 1·3, wing 2·2, tail 0·9, tarsus 0·3.

Hab. West Africa from Gaboon to Angola, as well as the islands in the Bay of Benin.

a. Ad. sk.	Prince's Island (*J. G. Keulemans*).	Wallace Coll.
b, *c*. Ad. sk.	Prince's Island (*Dr. Dohrn*).	Sharpe Coll.
d, *e*. Ad. sk.	Prince's Island (*J. G. Keulemans*).	Tweeddale Coll.
f. ♂ ad. sk.	Loanda.	Sharpe Coll.
g. Juv. sk.	Gaboon?	Old Coll. (Type of *Alcedo nais*.)
h. Skeleton.	West Africa.	Purchased.

5. ALCYONE.

Type.

Alcyone, *Swains. Classif. B.* ii. p. 336 (1837) ..... A. azurea.

Range. Confined to Australia, the Papuan Islands, and the Moluccas.

Key to the Species.

a. Abdomen rufous.
  a'. Bill slender.
    a''. Sides of body rufous like the breast, or only slightly washed with lilac ..... *azurea*, p. 168.
    b''. Sides of body bright ultramarine, continued from the sides of the upper breast ..... *pulchra*, p. 169.
  b'. Bill stout.
    c''. Above dull blue; tip of bill white..... *lessoni*, p. 170.
    d''. Above purplish blue; tip of bill reddish .... *affinis*, p. 171.
b. Abdomen white; size smaller.
  c'. No blue pectoral collar ..... *pusilla*, p. 171.
  d'. A blue pectoral collar ..... *richardsi*, p. 172.

1. Alcyone azurea.

Azure Kingfisher, *Lath. Gen. Syn. Suppl.* ii. p. 372 (1801).
Alcedo azurea, *Lath. Ind. Orn. Suppl.* p. xxxii (1801); *Swains. Zool. Illustr.* i. pt. 26 (1820–21); *Schl. Mus. Pays-Bas*, Alcedines, p. 9 (1863, pt.).
Alcedo tribrachys, *Shaw & Nodd. Nat. Misc.* xvi. pl. 681 (1804).
Ceyx tribrachys, *Cur. Règne Anim.* i. p. 417 (1817).
Three-toed Kingfisher, *Lewin, Nat. Hist. B. N. S. Wales*, i. pl. 1 (1822).
Ceyx azurea, *Steph. in Shaw's Gen. Zool.* xiii. pt. 2, p. 106 (1825); *Jard. & Selby, Ill. Orn.* i. pl. 55 (1839).
Ceyx cyanea, *Less. Traité*, p. 241 (1831).
Alcyone australis, *Swains. Classif. B.* ii. p. 336 (1837).
Alcyone azurea, *Ewing, Tasm. Journ.* i. p. 56 (1842); *Gray, Gen. B.* i. p. 82 (1847); *id. Cat. Fissir. Brit. Mus.* p. 65 (1848); *Gould, B. Austr.* ii. pl. 25 (1848); *Blyth, Cat. B. Mus. As. Soc.* p. 50 (1849); *Bp. Consp.* i. p. 158 (1850); *Reichenb. Handb., Alced.* p. 7, Taf. 397. figs. 3064–65 (1851); *Cassin, Cat. Halc. Philad. Mus.* p. 5 (1852); *Macgill. Voy. 'Rattlesnake,'* ii. p. 356 (1852); *Bp. Consp. Volucr. Anis.* p. 10 (1854); *Gould, Handb. B. Austr.* i. p. 139 (1865); *Gray, Hand-l. B.* i. p. 96, no. 1175 (1869); *Sharpe, P. Z. S.* 1869, p. 355; *id. Monogr. Alced.* p. 41, pl. 13 (1870); *Ramsay, Proc. Linn. Soc. N. S. W.* ii. p. 179 (1878); *North, op. cit.* (2) i. p. 1163 (1886), iii. p. 1774 (1888); *Ramsay, Tab. List Austr. B.* p. 3 (1888).
Alcyone diemenensis, *Gould, P. Z. S.* 1846, p. 19; *Gray, Gen. B.* i. p. 82 (1847); *Kaup, Fam. Eisv.* p. 18 (1848); *Gould, B. Austr., Intr.* p. xxxi (1848); *Reichenb. Voy. Neuholl.* p. 278 (1850); *Cab. & Heine, Mus. Hein.* Th. ii. p. 143 (1860); *Gould, Handb. B. Austr.* i. p. 141; *Gray, Hand-l. B.* i. p. 96, no. 1177 (1869); *Sharpe, P. Z. S.* 1869, p. 355; *id. Monogr. Alced.* p. 47 (1870); *Ramsay, Proc. Linn. Soc. N. S. W.* ii. p. 179 (1878); *id. Tab. List Austr. B.* p. 3 (1888).

Adult. Above bright ultramarine; wing-coverts blackish, edged with ultramarine; quills blackish, the inner web light rufous at the base, the secondaries externally edged with lighter blue; tail deep ultramarine above, black beneath; a loral spot of pale rufous; throat and a longitudinal patch of feathers along the sides of the neck white tinged with orange; cheeks, ear-coverts, and sides of the upper part of the breast ultramarine; rest of the under surface of the body cinnamon-rufous, with a lilac lustre on the flanks and under tail-coverts. Total length 6·5 inches, culmen 1·8, wing 2·9, tail 1·35, tarsus 0·3.

Sexes alike.

Young. Similar to the adult, but not so brilliant blue, the scapulars and lateral breast-patch black, only slightly washed with blue; the neck-stripe orange-buff; the head blackish, banded with blue.

A. diemenensis cannot be separated from *A. azurea*, and the characters on which I depended in my 'Monograph' are merely those of an immature bird.

Hab. Australia and Tasmania.

a, *b*. Ad. sk.	Tasmania (*Cockerell Coll.*).	Salvin-Godman Coll.
c. ♂ juv. sk.	Tasmania (*Sharpe Coll.*).	Tweeddale Coll.
d. Ad. sk.	Tasmania.	R. Gunn, Esq. [P.].
e, *f*. Ad. sk.	Tasmania.	Gould Coll.
g. ♂ ad.; *h*. ♀ imm. sk.	River Murray, S. Australia (*J. Gould*).	Sir G. Grey [P.].
i, *k*. ♀ ad. et imm. sk.	S. Australia (*J. Gould*).	Sir G. Grey [P.].
l. Ad. sk.	S. Australia.	Gould Coll.
m. Juv. sk.	N. S. Wales.	Gould Coll
n. Imm. sk.	Clarence River.	Tweeddale Coll.
o, *p*. Ad; *q*. Imm. sk.	Queensland (*Cockerell & Thorpe*: *Sharpe Coll.*).	Tweeddale Coll.
r, *s*. Ad. sk.	Queensland.	F. Nicholson, Esq. [P.].
t, *u*. Ad. sk.	Brisbane (*Cockerell & Thorpe*).	Salvin-Godman Coll.
v. Ad. sk.	Moreton Bay, May 8 (*F. Strange*).	Gould Coll.
w. ♀ ad. sk.	Moreton Island, May (*J. Macgillivray*).	Capt. Owen Stanley [P.].
x, *y*, *z*. Ad. sk.	Cape York (*Cockerell & Thorpe*: *Sharpe Coll.*).	Tweeddale Coll.
a', *b'*. Ad. sk.	Cape York (*J. T. Cockerell*).	Salvin-Godman Coll.
c'. Skeleton.	Port Essington.	Purchased.

Subsp. *a*. **Alcyone pulchra.**

Alcyone pulchra, *Gould*, *P. Z. S.* 1846, p. 19; *Gray*, *Gen. B.* i. p. 82 (1847); *Gould*, *B. Austr.* fol. *Intr.* p. xxxi (1848); *Reichenb. Vög. Neuholl.* p. 278 (1850); *id. Handb.*, *Alced.* p. 7 (1851); *Cass. Cat. Halcyon. Philad. Mus.* p. 5 (1852); *Elsey*, *P. Z. S.* 1857, p. 25; *Gould*, *Handb. B. Austr.* i. p. 141 (1865); *Sharpe*, *P. Z. S.* 1869, p. 356; *Gray*, *Hand-l. B.* i. p. 96, no. 1176 (1869); *Sharpe*, *Monogr. Alced.* p. 45, pl. 14 (1870); *Ramsay*, *P. Z. S.* 1875, p. 583; *id. Proc. Linn. Soc. N. S. W.* i. p. 380 (1877), ii. p. 179 (1878); *id. op. cit.* (2) i. p. 1007 (1886); *North*, *op. cit.* (2) iii. p. 269 (1888); *Ramsay*, *Tab. List Austr. B.* p. 3 (1888).

Adult. Similar to *A. azurea*, but richer in colour, more purplish blue above, brighter cinnamon-rufous or deep bay below, and further distinguished by the brilliant purplish blue which extends from the cheeks to the sides of the breast and thence down the flanks: "bill black; feet orange; iris black" (*J. Gould*). Total length 6·3 inches, culmen 2·1, wing 2·9, tail 1·3, tarsus 0·4.

Hab. North Australia from Cape York to N.W. Australia.

a. Ad. sk.	N. Australia (*Sharpe Coll.*).	Tweeddale Coll.
b, *c*. Ad. sk.	Cape York (*J. T. Cockerell*).	Salvin-Godman Coll.
d. Ad. sk.	Cape York (*J. T. C.*: *Sharpe Coll.*).	Tweeddale Coll.
e. Ad. st.	Port Essington.	Capt. W. Chambers [P.].
f, *g*. Ad. sk.	N.W. Australia.	Dr. J. R. Elsey [P.].

2. Alcyone lessoni.

Ceyx azurea (*nec Lath.*), *Less. Voy. Coquille*, i. p. 690 (1826); *id. Compl. Buff. Ois.* iii. p. 343 (1837); *Finsch, New-Guinea*, p. 161 (pt.).

Alcyone lessoni, *Cassin, Proc. Philad. Acad.* v. p. 69 (1850); *id. Cat. Halcyon, Philad. Mus.* p. 5 (1852); *Bp. Consp. Volucr. Anis.* p. 10 (1854); *Scl. Journ. Proc. Linn. Soc., Zool.* ii. p. 156 (1858); *Gray, P. Z. S.* 1859, p. 155, 1861, p. 433; *Sharpe, P. Z. S.* 1869, p. 353; *id. Monogr. Alced.* p. 49, pl. 15. fig. 2 (1871); *Salvad. Ann. Mus. Civ. Genov.* ix. p. 19 (1876), x. pp. 125, 300 (1877); *Sharpe, Journ. Linn. Soc., Zool.* xiii. pp. 311, 492 (1878); *Salvad. & D'Albert. Ann. Mus. Civ. Genov.* xiv. p. 48 (1879); *Salvad. Orn. Papuasia etc.* i. p. 410 (1880); *Sharpe, Journ. Linn. Soc., Zool.* xvi. p. 428 (1882); *Nehrk. J. f. O.* 1885, p. 31; *Guillem. P. Z. S.* 1885, p. 626; *Finsch & Meyer, Zeitschr. ges. Orn.* iii. p. 12 (1886); *Salvad. Orn. Papusia*, Agg. i. p. 53 (1889).

Alcyone azurea, var., *Gray, P. Z. S.* 1858, pp. 172, 190; *id. Cat. Mamm. etc. New Guinea*, pp. 21, 55 (1859).

Alcedo azurea (*nec Lath.*), *Schl. Mus. Pays-Bas*, Alced. p. 17 (1863, pt.); *id. Vog. Nederl. Ind.* pp. 11, 47 (1864, pt.).

Alcyone azurea (*nec Lath.*), *Rosenb. Nat. Tijdsch. Nederl. Ind.* xxv. p. 231 (1863, pt.); *id. J. f. O.* 1864, p. 118.

Alcyone pulchra, pt., *Gray, Hand-l. B.* i. p. 96, no. 1176 (1869).

Alcyone affinis (*nec Gray*), *Ramsay, Proc. Linn. Soc. N. S. W.* iii. p. 258 (1878), iv. p. 196 (1879); *Salvad. Ibis*, 1879, p. 322.

Adult male. Above deep rich ultramarine; wing-coverts deep blue-black edged with ultramarine; tail deep ultramarine above, black beneath; a minute loral spot of orange-buff; a longitudinal patch of feathers along the sides of the neck white tinged with pale orange; throat whitish, tinged with pale rufous; cheeks, sides of the neck, and a large patch of feathers on the sides of the upper part of the breast deep rich ultramarine, extending a little on to the flanks; rest of the under surface of the body deep rufous, with a rich lilac shine on the flanks; bill jet-black; feet red. Total length 7 inches, culmen 1·7, wing 2·85, tail 1·2, tarsus 3·3.

Young. Differs from the adult in being more blackish, the head blackish barred with blue, and the patch on the sides of the breast also blackish with scarcely any blue lustre.

Hab. New Guinea and the adjacent Papuan Islands. Aru Islands.

a. ♂ ad. sk.	New Guinea (*A. R. Wallace*).	Tweeddale Coll.
b. Ad. sk.	New Guinea (*A. R. Wallace*).	Gould Coll.
c, *d*. ♂ ♀ ad. sk.	Dorey.	Wallace Coll.
e. ♂ ad. sk.	8 miles from Yule Island, Nov. (*Dr. James*).	Tweeddale Coll.
f. Juv. sk.	Astrolabe Mts.	A. Goldie [C.].
g. ♂ ad. sk.	Milne Bay.	C. Hunstein [C.].
h. Ad. sk.	[Waigiou (*Hoedt*).]	Tweeddale Coll.
i. ♂ ad. sk.	Aru Islands.	Wallace Coll.

3. Alcyone affinis.

Alcyone affinis, *Gray, P. Z. S.* 1860, p. 348; *Sharpe, P. Z. S.* 1869, p. 354; *Gray, Hand-l. B.* i. p. 97, no. 1178 (1869); *Sharpe, Monogr. Alced.* p. 51, pl. 15. fig. 1 (1871); *Salvad. Ann. Mus. Civ. Genov.* vii. p. 764 (1875), x. p. 301 (1877); *id. Orn. Papuasia etc.* i. p. 413 (1880).

Alcedo azurea, *Schl. Mus. Pays-Bas*, Alced. p. 17 (1863, pt.); *id. Vog. Nederl. Ind.* pp. 11, 47, pl. 3. fig. 4 (1864).

Adult. Similar to *A. lessoni*, but of a lighter and more brilliant blue, and distinguished by the reddish tip to the bill. Total length 7 inches, culmen 1·95, wing 3, tail 1·35, tarsus 0·45.

Young. Similar to the adult, but a little more dusky, the head blue barred with blackish; the bill reddish at the tip.

Hab. Molucca Islands.

a, *b*. Ad. et juv. sk.	Batchian.	Wallace Coll. (Types of species.)
c, *d*. Ad. sk.	Halmahera (*A. R. Wallace*).	Gould Coll.
e. Ad. sk.	Halmahera (*A. R. Wallace*).	Tweeddale Coll.

4. Alcyone pusilla.

Ceyx pusilla, *Temm. Pl. Col.* iv. pl. 595. fig. 3 (1836); *S. Müll. Verh. Land- en Volkenk.* p. 22 (1839–44); *Gray, P. Z. S.* 1858, pp. 172, 190; *id. Cat. Mamm. etc. New Guinea*, pp. 21, 53 (1859); *id. P. Z. S.* 1861, p. 433; *Finsch, Neu-Guinea*, p. 161 (1865); *Rosenb. Reis naar Zuidoostereil.* p. 38 (1867).

Alcyone pusilla, *Gray, Gen. B.* i. p. 82 (1847); *Gould, B. Austr.* ii. pl. 26 (1848); *Reichenb. Vög. Neuholl.* p. 35 (1849); *Bp. Consp.* i. p. 158 (1850); *Reichenb. Handb., Alced.* p. 7, Taf. 398. figs. 3068–9 (1851); *Cass. Cat. Halcyon. Philad. Mus.* p. 5 (1852); *Macgill. Voy. 'Rattlesnake,'* ii. p. 356 (1852); *Bp. Consp. Volucr. Anis.* p. 10 (1854); *Scl. Journ. Proc. Linn. Soc., Zool.* ii. p. 156 (1858); *Rosenb. J. f. O.* 1864, p. 118; *Gould, Handb. B. Austr.* i. p. 142 (1865); *Ramsay, P. Z. S.* 1868, p. 383; *Sharpe, P. Z. S.* 1869, p. 357; *id. Monogr. Alced.* p. 53, pl. 16 (1869); *Gray, Hand-l. B.* i. p. 97, no. 1179 (1869); *Beccari, Ann. Mus. Civ. Genov.* vii. p. 708 (1875); *Ramsay, P. Z. S.* 1875, p. 583; *Scl. P. Z. S.* 1876, p. 247; *Salvad. Ann. Mus. Civ. Genov.* x. p. 301 (1877); *Masters, Proc. Linn. Soc. N. S. W.* i. p. 481 (1876); *Ramsay, op. cit.* iii. p. 258 (1878); *Sharpe, Journ. Linn. Soc., Zool.* xiii. pp. 311, 492 (1878); *Scl. P. Z. S.* 1879, p. 450; *Ramsay, Proc. Linn. Soc. N. S. W.* iv. p. 96 (1879); *D'Albert & Salvad. Ann. Mus. Civ. Genov.* xiv. p. 48 (1879); *Salvad. Orn. Papuasia etc.* i. p. 414 (1880); *Meyer, Zeitschr. ges. Orn.* i. p. 275 (1884); *Pleske, Bull. Acad. S. Pétersb.* xxix. p. 525 (1884); *Guillem. P. Z. S.* 1885, pp. 566, 626; *Ramsay, Tab. List Austr. B.* p. 3 (1888); *Salvad. Orn. Papuasia*, i. Agg. p. 53 (1889).

Alcedo pusilla, *Schl. Mus. Pays-Bas*, Alcyones, p. 10 (1863); *id. Vog. Nederl. Ind.*, Alced. pp. 12, 48, pl. 3. fig. 6 (1864); *Rosenb. Reis. Geelvinkb.* p. 115 (1875).

Adult male. Above rich ultramarine, having a greenish tinge in some lights on the head, cheeks, and wing-coverts; quills blackish,

the inner web lighter at the base, the outer web distinctly washed with ultramarine, especially on the secondaries; tail blue above, black beneath; a loral spot and a patch of feathers along the sides of the neck white, the latter slightly tinged with orange; entire under surface white, with a bluish lustre on the breast in some lights; sides of the breast and flanks rich ultramarine: "bill black; feet greenish grey; irides dark blackish brown" (*J. Gould*). Total length 4·8 inches, culmen 1·15, wing 2, tail 0·85, tarsus 0·25.

A female in the Salvin-Godman collection, instead of being deep ultramarine or purplish blue, is quite light blue in comparison to the males. It may not be an adult bird, as I notice a greenish-blue tinge on the wings of some of the other specimens. As a rule, however, the immature birds are easily distinguished by their dull coloration and by the blackish edgings to the feathers of the breast. In very old specimens the blue is so extended on the lower breast as almost to meet across the latter.

Hab. Northern Australia. New Guinea and the adjacent Papuan Islands, extending into the Moluccas.

a. Ad. sk.	Halmahera.	Wallace Coll.
b. Ad. sk.	Moluccas (*Sharpe Coll.*).	Tweeddale Coll.
c. Ad. sk.	E. Ceram.	C. F. Riedel, Esq. [P.].
d. Juv. sk.	Aru Islands.	Wallace Coll.
e. ♂ ad. sk.	Aru Islands (*A. R. Wallace*).	Tweeddale Coll.
f. Ad. sk.	Aleya, S.E. New Guinea, April (*Dr. James*).	Tweeddale Coll.
g. Ad. sk.	Wood Harbour, New Ireland.	Rev. G. Brown [C.].
h. Ad. sk.	Aola, Guadalcanar.	C. M. Woodford, Esq. [C.].
i, *k*, *l*. Ad.; *m*. Juv. sk.	Cape York (*J. T. Cockerell*).	Salvin-Godman Coll.
n, *o*. Imm. sk.	Newcastle Bay, Queensland (*J. T. Cockerell*).	Salvin-Godman Coll.

5. Alcyone richardsi.

Alcyone richardsi, *Tristr. Ibis*, 1882, p. 134, pl. 4; *Ramsay, Proc. Linn. Soc. N. S. W.* vii. p. 42 (1882); *Salvad. Ann. Mus. Civic. Genov.* xviii. p. 419 (1882); *id. Orn. Papuasia*, iii. p. 522 (1882); *id Agg. Orn. Papuasia*, i. p. 53 (1889).

Adult. Bill black; head blue, the forehead rather blacker; a spot between the bill and the eye and a patch behind the eye white; back and tail ultramarine; upper secondaries washed with blue; quills black; throat and chest white; a band across the breast and sides of body ultramarine-blue; abdomen white; vent blue; feet black. Total length 4·9 inches, bill from gape 1·45, wing 2·15, tail 1·2.

Hab. Rendova Island, Solomon Archipelago.

a. ♂ ad. sk.	Rendova Island, Solomons, Aug. 17.	Capt. G. E. Richards [C.].

Subfamily II. DACELONINÆ.

6. CEYX.

Type.
Ceyx, *Lacép. Mém. de l'Inst.* 1801, p. 511 ..... C. tridactyla.
Ceycis, *Gloger, Handb.* p. 338 (1842) ..... —— ?
Therosa, *S. Müller, MSS., teste Bp.* ..... C. solitaria.

Range. Indian and Indo-Malayan Regions. Moluccas, New Guinea to the Solomon Islands, and New Britain.

Key to the Species.

a. Head and rump red, with a blue or lilac tinge.
  a'. With a spot of bright blue behind the ear-coverts.
    a''. Mantle blue like the scapulars ..... *tridactyla* ♂ ♀ ad., [p. 174.
    b''. Mantle red like the rest of the back.
      a'''. Scapulars blue; wing-coverts black, washed with blue; no lilac spots on the head ..... *dillwynni* ♂ ad., p. 177.
      b'''. Scapulars rufous like the back, with a black line bordering the mantle; head spotted with lilac ..... *melanura*, p. 180.
  b'. With no blue spot behind the ear-coverts.
    c''. Head spotted with lilac; back and wing-coverts rufous ..... *basilanica*, p. 181.
    d''. Head washed with beautiful lilac like the back, but not spotted.
      c'''. With more or less black on the scapulars and wing-coverts, which are sometimes washed with blue .. *euerythra*, p. 179.
      d'''. Scapulars and wing-coverts red; lower back washed or streaked with lilac-blue; sexes alike ..... *innominata*, p. 180.
b. Head black, spotted or barred with blue; lower back and rump bright cobalt or silvery blue.
  c'. Bill red.
    e''. Scapulars entirely black, not washed with blue.
      e'''. Cheeks and ear-coverts black; back silvery blue ..... *cajeli*, p. 182.
      f'''. Cheeks and ear-coverts black, spotted with blue; back rich cobalt ..... *wallacii*, p. 182.
    f''. Scapulars washed with blue.
      g'''. Cheeks blue like the ear-coverts .. *lepida*, p. 183.
      h'''. Cheeks orange like the loral spot.
        a^4. Head and back deep ultramarine.. *malamaui*, p. 184.
        b^4. Head and back silvery blue or cobalt ..... *bournsi*, p. 185.
  d'. Upper mandible blackish, lower mandible reddish.
    g''. Back ultramarine; head spotted with ultramarine; lower surface orange, with no conspicuous patch on the sides of the breast ..... *sacerdotis*, p. 184.

h''. Back bright cobalt; head spotted with cobalt; a large patch of blue on the sides of the breast, forming a half-collar.
i'''. Under surface of body deep orange-chestnut ..... *cyanipectus*, p. 185.
k'''. Under surface of body dull chestnut. *steerii*, p. 187.
c'. Bill entirely black.
i''. Back silvery white; head and wing-coverts spotted with silvery white; abdomen white.
l'''. Breast and sides of body black, washed with indigo or greenish blue. *argentata*, p. 187.
m'''. Breast and sides of body black, washed with deep purplish blue .. *fluminicola*, p. 187.
k''. Back washed with bright blue, as also the wing-coverts.
n'''. Abdomen white like the breast.... *gentiana*, p. 188.
o'''. Abdomen orange-yellow like the breast ..... *solitaria*, p. 188.

1. Ceyx tridactyla.

Alcedo tridactyla, *Pallas, Spic. Zool.* vii. p. 10, tab. 2. fig. 1 (1769); *Linn. Mant. Plant.* p. 524 (1771); *Scop. Del. Faun. et Flor. Insubr.* ii. p. 90 (1786); *Gm. Syst. Nat.* i. p. 459 (1788).
Martin-pêcheur de l'isle de Luçon, *Somn. Voy. Nouv. Guin.* p. 67, pl. 32 (1776).
Martin-pêcheur de Pondicherry, *Daubent. Pl. Enl.* vii. pl. 778. fig. 2.
Le Martin-pêcheur à trois doigts, *Buff. Hist. Nat. Ois.* vi. p. 203 (1780).
Alcedo rubra, *Bodd. Tabl. Pl. Enl.* p. 49 (1783).
Alcedo purpurea, *Gm. Syst. Nat.* i. p. 449 (1788).
Alcedo erythaca, *Gm. Syst. Nat.* i. p. 449 (1788).
Ceyx luzoniensis, *Steph. in Shaw's Gen. Zool.* xiii. p. 106 (1825).
Ceyx tridactyla, *Sykes, P. Z. S.* 1832, p. 84; *Strickl. P. Z. S.* 1846, p. 99; *Gray, Gen. B.* i. p. 80 (1847); *id. Cat. Fissir. Brit. Mus.* p. 59 (1848); *Jerd. Ill. Ind. Orn.* pl. 25 (1847); *Bp. Consp.* i. pp. 157, 158 (1850); *Cass. Cat. Halcyon. Philad. Mus.* p. 13 (1852); *Bp. Consp. Volucr. Anis.* p. 9 (1854); *Hartl. J. f. O.* 1854, p. 413; *Moore, P. Z. S.* 1854, p. 269; *Jerd. B. Ind.* i. p. 229 (1862); *Gray, Cat. Mamm. etc. Nepal pres. Hodgs.* p. 24 (1863); *Sharpe, P. Z. S.* 1868, p. 271; *id. Monogr. Alced.* p. 119, pl. 40 (1868); *Gray, Hand-l. B.* i. p. 94, no. 1142 (1869); *Salvad. Atti R. Accad. Sci. Torino*, iv. p. 455 (1869); *Stoliczka, J. A. S. Beng.* xxxix. p. 295 (1870: Prov. Wellesley); *Holdsw. P. Z. S.* 1872, p. 424 (Ceylon); *Hume, Str. F.* ii. p. 173 (1874: Andamans); *Butler, t. c.* p. 455 (Khandala); *Walden, Ibis*, 1874, p. 137 (Andamans); *Hume, Str. F.* iii. p. 51 (1875: Pegu); *Blyth, B. Burm.* p. 71 (1875); *Hume, Str. F.* iv. p. 287 (1876: Kondul Isl.); *id. Str. F.* v. p. 19 (1877: Cachar); *id. & Davison, Str. F.* vi. pp. 80, 499 (1878: Tenasserim); *Legge, B. Ceylon*, p. 303 (1879); *Hume, Str. F.* viii. p. 86 (1879); *Bingham, t. c.* p. 193 (Kaukaryit); *id. Str. F.* ix. p. 155 (1880: Thoungyeen Valley); *Butler, Cat. B. S. Bomb. Pres.* p. 19 (1880); *Oates, Handb. B. Br. Burm.* ii. p. 80

(1883); *Salvad. Ann. Mus. Civ. Genov.* (2) iv. p. 537 (1887), vii. p. 433 (1889: Malewoom); *Hume, Str. F.* xi. p. 45 (1888: Manipur); *Oates, ed. Hume's Nests & Eggs Ind. B.* iii. p. 13 (1890).

Ceyx purpurea, *Less. Traité*, p. 38 (1831); *Reichenb. Handb., Alced.* p. 9, Taf. 398. fig. 3071 (1851); *Bp. Consp. Vol. Anis.* p. 9 (1854); *Hartl. J. f. O.* 1855, p. 423.

Ceyx microsoma, *Burton, P. Z. S.* 1837, p. 89.

Ceyx erythaca, *Blyth, Cat. B. Mus. As. Soc.* p. 50 (1849).

Dacelo rubra, *Schl. Mus. Pays-Bas*, Alced. p. 49 (1863); *id. Voy. Nederl. Ind.*, Alced. pp. 40, 68, pl. 16. fig. 2 (1864).

Adult male. General colour above black, washed with purplish blue or deep ultramarine on the mantle and scapulars; lower back, rump, and upper tail-coverts red washed with beautiful lilac; wing-coverts black, edged with blue on the margins, the bend of the wing rufous; bastard-wing, primary-coverts, and quills blackish, the inner secondaries washed with blue, the first primary edged with rufous externally; tail-feathers cinnamon-rufous; crown of head rufous, washed with beautiful lilac; on the forehead a spot of blue; lores rather more orange-rufous; in front of the eye a dusky blackish spot; eyelid also blackish; ear-coverts and cheeks deep orange-yellow, with a spot of bright ultramarine behind the ear-coverts, followed by a band of yellowish white on the sides of the neck; throat white, tinged with yellow; lower throat, fore neck, and rest of under surface of body orange-yellow, deeper in colour on the sides of body and flanks; thighs, under tail-coverts, under wing-coverts, and axillaries orange yellow; quills below blackish, rufescent along the inner edge: "bill and feet bright vermilion red; iris brown" (*W. Davison*). Total length 5·5 inches, culmen 1·35, wing 2·15, tail 0·9, tarsus 0·25.

Adult female. Similar to the male in colour. Total length 5·6 inches, culmen 1·35, wing 2·25.

Young. Similar to the adults, but with a shorter and paler bill, the latter dusky at the base of both the upper and lower mandibles; the blue frontal spot, as well as the blue spot on the neck, are both equally as brilliant as in the fully adult bird, also the lilac colour on the head and back. The mantle and scapulars are black, with a very slight wash of ultramarine, and the same is the case with the wing-coverts, but in other respects the nestling is as brilliantly coloured as the old birds, and is even brighter below, the throat being yellow, and the breast and sides of body washed with deep orange-rufous, almost chestnut in tint.

Hab. Ceylon and Southern India; Himalayas from Nepal eastwards to Assam, Manipur, and the Burmese Provinces, southwards through the Malayan Peninsula.

a, *b*, *c*. Ad.; *d*, *e*. Juv. sk.	Ceylon (*H. Nevill and S. Chapman*).	Tweeddale Coll.
f. Ad. sk.	Nuwara Eliya, Ceylon.	Mr. E. Boate [C.].
g. ♂ ad. sk.	Divelane Tank, Ceylon, Oct. 6.	Col. W. V. Legge [P.].
h, *i*. Ad. sk.	Nepal.	Hodgson Coll.

k. Ad. sk.	Native Sikkim, May (*L. Mandelli*).	Hume Coll.
l–s. Ad. sk.	Sikkim, Feb., April to July (*L. Mandelli*).	Hume Coll.
t–y. ♂ ♀ ad. et juv. sk.	Darjeeling.	Hume Coll.
z, *a'*. Ad. et juv. sk.	Darjeeling.	Seebohm Coll.
b'. Ad. sk.	Bhotan Doars, April (*L. Mandelli*).	Hume Coll.
c'–g'. ♂ ♀ ad. et juv. sk.	Dibrughur, Feb., March, June, Aug. (*J. R. Cripps*).	Hume Coll.
h'. ♂ ad. sk.	Khasia Hills.	Hume Coll.
i', *k'*. ♂ ♀ ad. sk.	Khasia Hills, April (*A. W. Chennell*).	Tweeddale Coll.
l'. Imm. sk.	Cachar (*J. Inglis*).	Hume Coll.
m', *n'*. ♀ ad. sk.	Lower Pegu.	Oates Coll.
o'. ♂ imm. sk.	Kaukaryit, Sept. 6 (*J. Darling*).	Hume Coll.
p'. Ad. sk.	Tavo, 5000 feet, March 26 (*W. Limborg*).	Tweeddale Coll.
q'–u'. ♂ ad.; *v'–x'*. ♀ ad. sk.	Nwalabo, April (*W. Davison*).	Hume Coll.
y'–b''. ♂ ad.; *c''*, *d''*. ♀ ad. sk.	Tavoy, March, April (*W. D.*).	Hume Coll.
e''–n''. ♂ ad.; *o''–q''*. ♀ ad. sk.	Bankasoon, March–May (*W. D.*).	Hume Coll.
r'', *s''*. ♂ ad.; *t''*, *u''*. ♀ ad. sk.	Malewoon, April (*W. D.*).	Hume Coll.
v'', *w''*. ♂ ♀ ad. sk.	Malewoon, March, Dec.	Oates Coll.
x''. ♀ ad. sk.	Salang, Island of Tonka, March (*J. Darling*).	Hume Coll.
y''. Ad. sk.	Penang.	Wallace Coll.
z'', *a*^{3}. Ad. et juv. sk.	Penang (*Dr. Cantor*).	India Museum.
b^3. ♂ imm. sk.	Salangore, Nov. 26 (*W. Davison*).	Hume Coll.
c^3, *d*^{3}. Ad. et juv. sk.	Malacca, Aug., Sept. (*W. Davison*).	Hume Coll.
e^3–*g*^{3}. Ad. sk.	Malacca.	Pinwill Coll.
h^3. Imm. sk.	Malacca (*Dr. Maingay*).	Tweeddale Coll.
i^3. Ad. sk.	Malacca (*R. G. W. R.*).	Tweeddale Coll.
k^3. Ad. sk.	Malacca (*A. R. Wallace*).	Gould Coll.
l^3. ♂ juv. sk.	Pulo Seban, Nov. 11 (*W. Davison*).	Hume Coll.
m^3. ♀ ad. sk.	Dingding River, Feb. 25 (*W. Davison*).	Hume Coll.
n^3. Ad. sk.	S. Andamans, April 28 (*R. G. W. R.*).	Tweeddale Coll.
o^3, *p*^{3}. ♂ ad. sk.	Kondul Island, Nicobars, April 10 (*F. de Roepstorff*).	Hume Coll.
q^3. Ad. sk.	[Sumatra; *Sharpe Coll.*]	Tweeddale Coll.

CEYX DILLWYNNI *and its allies.*

It is somewhat remarkable that, after the lapse of twenty years since I finished my 'Monograph' of the *Alcedinidæ*, during the whole of which time I have made a point of collecting material for a proper comprehension of these little red *Ceyces*, we are still without a solution of the problems which were discussed by Count Salvadori and myself in 1870 and 1871. I have lately taken advantage of the presence of my friendly opponent in England to go over the whole matter with him, and Count Salvadori confesses that he is as much puzzled to understand the plumages of *Ceyx dillwynni* as I am myself.

We are agreed that *Ceyx sharpii* is only a stage of plumage of *C. dillwynni*, but what stage cannot yet be exactly determined. It cannot be a young bird, for the bill is bright *red*, and the young birds of this group of *Ceyces* have a *blackish* bill. We also know that the nestlings both of *C. dillwynni* and *C. tridactyla* are as brightly coloured as the adults. What, then, is the red-shouldered bird which occurs with *C. dillwynni* in Borneo, but does not have blue scapulars and wing-coverts, nor, apparently, a blue spot behind the ear-coverts? Is it the adult female of *C. dillwynni*? If so, and the nestlings of both male and female are alike, then the latter, beginning with the bright plumage of the male, would gradually lose it and become entirely red. This theory would account in a measure for the number of specimens in the *C.-sharpii* stage of plumage which occur in collections; they would be adult females with traces of the "male" or "immature" plumage.

Count Salvadori has described a series of specimens of the true *C. dillwynni* from the island of Nias on the *western* side of Sumatra, and yet no specimen of the true *C. dillwynni* (*i. e.* with blue scapulars and wing-coverts) has been found in the intermediate island of Sumatra.

In Java also there has never been found a true *C. dillwynni*, and both sexes of the Javan *Ceyx*, when adult, seem to have a red plumage, like the supposed female of *C. dillwynni*, but always showing some streaks of lilac-blue on the lower back. We have here, therefore, an apparently parallel case with that of the *Ægithinæ* (*cf.* Sharpe, Cat. B. vol. vi. pp. 5, 6), where the Javan species is peculiar to the island, and both sexes wear the plumage which is characteristic of the female of one of the allied species. I am not certain whether the true *C. dillwynni* goes to Malacca, but some very puzzling specimens have been received from the Malayan Peninsula, which are either true *C. dillwynni* in changing plumage, or are hybrids between *Ceyx euerythra* and *C. tridactyla*.

2. Ceyx dillwynni.

Ceyx tridactyla (*nec Pall.*), *Reichenb. Handb., Alced.* p. 8, Taf. 403 B. fig. 3389 (1851); *Motley & Dillw. Nat. Hist. Labuan*, p. 13 (1855).
Ceyx dillwynni, *Sharpe, P. Z. S.* 1868, pp. 591, 593; *id. P. Z. S.* 1869, p. 511; *Salvad. Atti R. Accad. Torino*, iv. p. 461 (1869);

Gray, Hand-l. B. i. p. 94, no. 1149 (1869); *Sharpe, Monogr. Alced.* p. 125, pl. 43 (1870); *Salvad. Ucc. Born.* p. 99 (1874); *Sharpe, P. Z. S.* 1875, p. 101; *Brügg. Abhandl. nat. Ver. Bremen*, v. p. 552 (1878); *Sharpe, P. Z. S.* 1879, p. 330 (Labuan); *Nicholson, Ibis*, 1883, p. 89 (Segilind River); *Vorderm. Nat. Tijdschr. Nederl. Ind.* xlvi. p. 11 (1886); *Salvad. Ann. Mus. Civ. Genov.* iv. pp. 535, 537 (1887: Nias); *Everett, Trans. R. Asiat. Soc. Straits Branch*, 1889, p. 160; *Sharpe, Ibis*, 1890, pp. 18, 283 (Kina Balu).

Adult male. Similar to *C. tridactyla*, and having the same spot of bright blue above the ear-coverts, but differs in having the entire back lilac, the mantle being also lilac and not blue; the scapulars are blue, and the wing-coverts are black, washed with blue; the quills are entirely black, rufescent only along the inner web below: "bill and feet coral-red; iris black" (*J. Whitehead*). Total length 5·2 inches, culmen 1·5, wing 2·3, tail 0·8, tarsus 0·35.

Nestling. As with the nestling of *C. tridactyla*, the nestling of *C. dillwynni* is as brightly coloured as the old male, with black wings and scapulars, the latter as well as the wing-coverts being washed with purplish blue; the blue spot above the ear-coverts is strongly developed, and there is a little line of blue at the base of the bill; the bill is blackish horn-colour.

Hab. Borneo, and the island of Nias off the west coast of Sumatra.

a. Imm. sk.	Labuan (*J. Motley*: *Sharpe Coll.*).	Tweeddale Coll. (Type of species.)
b–d. Imm. sk.	Labuan (*Sir Hugh Low*).	Sharpe Coll.
e. Ad. sk.	Labuan.	Sir Hugh Low [C.].
f, g. Imm. sk.	Labuan.	Governor Ussher [C.].
h. Imm. sk.	Trusan, March.	A. H. Everett, Esq. [C.].
i. ♂ imm. sk.	Marup (*A. H. Everett*).	Tweeddale Coll.

Intermediate specimens between C. dillwynni *and* C. euerythra (=C. sharpii, *Salvad.*).

Ceyx rufidorsa (*nec Strickl.*), *Scl. P. Z. S.* 1863, p. 313 (Banjarmassing).

Ceyx sharpii, *Salvad. Atti R. Accad. Sci. Torin.* iv. p. 463, cum tab. (1869); *Sharpe, Ibis*, 1869, p. 511; *id. Monogr. Alced.* p. 123, pl. 42 (1870); *Walden, Ibis*, 1872, p. 368 (Marup); *Salvad. Ucc. Born.* p. 98 (1874); *Sharpe, P. Z. S.* 1875, p. 100 (Labuan).

a–d. Ad. sk.	Labuan (*Sir Hugh Low*).	Sharpe Coll.
e. Ad. sk.	Labuan (*Sir Hugh Low*).	Tweeddale Coll.
f, g. Ad. sk.	Labuan.	Governor Ussher [C.].
h, i. Ad. sk.	Labuan, Nov.	A. H. Everett, Esq. [C.].
k. Juv. sk.	N.W. Borneo.	Sir Hugh Low [C.].
l. Ad. sk.	Banjarmassing (*J. Motley*).	Tweeddale Coll.

3. Ceyx euerythra.

Ceyx rufidorsa (*nec Strickl.*), *Sharpe, Monogr. Alced.* p. 121, pl. 41 (1869); *id. Ibis*, 1877, p. 6 (Bintulu; Jambusan); *Tweedd. Ibis*, 1877, p. 297 (S.E. Sumatra); *Kelham, Ibis*, 1881, p. 381 (Singapore); *Salvin, Cat. Strickl. Coll.* p. 418 (1882); *Nichols. Ibis*, 1883, p. 243 (Sumatra); *Sharpe, Ibis*, 1884, p. 318 (Palawan); *Büttik. Notes Leyden Mus.* ix. p. 37 (1887: W. Sumatra); *Whitehead, Ibis*, 1890, p. 45 (Palawan); *Everett, Journ. Straits Branch R. Asiat. Soc.* 1889, p. 159; *Steere, List Birds & Mamm. Steere Exped.* p. 10 (1890: Palawan).

Ceyx innominata (*nec Salvad.*), *Sharpe, P. Z. S.* 1875, p. 101.

Ceyx dillwynni (*nec Sharpe*, 1868), *Sharpe, Ibis*, 1879, p. 249 (Lawas; Brunei; Lumbidan); *id. P. Z. S.* 1881, p. 793 (Sandakan).

Dacelo rufidorsa (*nec Strickl.*), *Schl. Mus. Pays-Bas*, Alced. p. 49 (1863); *id. Vog. Nederl. Ind.* Alced. pp. 40, 67, pl. 16. fig. 1 (1864); *Snellem. in Veth's Midden-Sumatra, Vog.* p. 36 (1884).

Adult. Entirely red, with a wash of beautiful lilac on the upper surface; greater wing-coverts and innermost secondaries tipped with rufous: "bill and legs pale red; iris brown" (*A. Everett*). Total length 6·5 inches, culmen 1·5, wing 2·25, tail 1·9, tarsus 0·35.

Hab. Malacca, Sumatra, Labuan, N.W. Borneo, Palawan, Mindoro.

a, b. ♂ ad. sk.	Klang, Salangore, March (*W. Davison*).	Hume Coll.
c. ♀ ad. sk.	Malacca, Aug. 16 (*R. G. W. R.*).	Tweeddale Coll.
d. Ad. sk.	Malacca.	W. Harvey, Esq.
e. Ad. sk.	Malacca, July (*W. Davison*).	Hume Coll.
f. ♂ ad. sk.	Johore, July 19 (*W. Davison*).	Hume Coll.
g. Ad. sk.	Singapore (*Sharpe Coll.*).	Tweeddale Coll.
h. Ad. sk.	Lampong (*E. C. Buxton*).	Tweeddale Coll.
i–l. ♀ ad. sk.	Sumatra (*Carl Bock*).	Tweeddale Coll.
m. Ad. sk.	Sumatra.	Wallace Coll.
n. Ad. sk.	Labuan.	Governor Ussher[C.].
o. Ad. sk.	Labuan (*Sir Hugh Low*).	Tweeddale Coll.
p. Ad. sk.	Labuan (*Sir Hugh Low*).	Sharpe Coll.
q. Ad. sk.	Labuan.	T. B. Moody, Esq. [P.].
r. Ad. sk.	Labuan, Jan.	A. H. Everett, Esq. [C.].
s. Ad. sk.	Brunei.	GovernorUssher[C.].
t. Ad. sk.	Sarawak (*A. H. Everett*).	Tweeddale Coll.
u. Ad. sk.	Sarawak (*A. H. Everett*).	Salvin-Godman Coll.
v. Ad. sk.	Bintulu.	A. H. Everett, Esq. [C.].
w. Ad. sk.	Palawan.	H. Lemprière, Esq. [C.].
x. ♂ ad. sk.	Mindoro, June.	D. C. Worcester, Esq. [C.].

Intermediate specimens between C. cuerythra *and* C. tridactyla.

Ceyx rufidorsa, *Strickl. P. Z. S.* 1846, p. 99; *Salvad. Atti R. Accad. Sci. Torino*, iv. p. 459 (1869).

a ♂ ad. sk.	Malacca (*A. R. Wallace*).	Tweeddale Coll.
b, *c*. Ad. sk.	Malacca (*Dr. Maingay*).	Tweeddale Coll.
d. Imm. sk.	Malacca.	W. Harvey, Esq. [P.].
e. Ad. sk.	Malacca, July (*W. Davison*).	Hume Coll.
f. ♂ imm. sk.	Johore, July 24 (*W. Davison*).	Hume Coll.

4. Ceyx innominata.

Ceyx rufidorsa, pt., *Cass. Cat. Halc. Philad. Mus.* p. 13 (1852); *Horsf. & Moore, Cat. B. Mus. E.I. Co.* i. p. 132 (1854).

Ceyx innominata, *Salvad. Atti R. Accad. Sci. Torino*, iv. p. 465 (1869); *Vorderm. Nat. Tijdschr. Nederl. Ind.* xliv. p. 259 (1885: Java), xlvi. p. 68 (1887: W. Java); *Salvad. Ann. Mus. Civic. Genov.* (2) iv. p. 537 (1887).

Dacelo rufidorsa (*nec Strickl.*), *Schl. Mus. Pays-Bas, Revue Alced.* p. 33 (1874).

Ceyx rubra, *Vorderm. Nat. Tijdschr. Nederl. Ind.* xliii. p. 179 (1884).

Adult. Entirely lilac-rufous above, with a wash of brighter lilac on the crown; the back and rump streaked with lilac-blue; wing-coverts rufous like the back; bastard-wing, primary-coverts, and quills blackish, with an edging of rufous to the first primary and inner secondaries; tail rufous: lores, sides of face, and cheeks orange-rufous; on the sides of the neck a band of yellowish white; throat white, slightly tinged with yellow; the rest of the under surface bright orange-yellow, somewhat paler on the abdomen; under wing-coverts orange-rufous; quills dusky below, pale chestnut along the inner web. Total length 4·8 inches, culmen 1·45, wing 2·2, tail 0·9, tarsus 0·35.

Hab. Java, Lombock, and Flores.

a–e. Ad. sk.	Java (*Horsfield*).	India Museum.
f. Ad. sk.	East Java.	Wallace Coll.
g. Ad. sk.	West Java (*A. R. Wallace*).	Salvin-Godman Coll.
h. ♀ ad. sk.	Lombock (*A. R. Wallace*).	Tweeddale Coll.
i. Ad. sk.	Lombock (*A. R. Wallace*).	Gould Coll.
k. Ad. sk.	Flores (*A. R. Wallace*: *Sharpe Coll.*).	Tweeddale Coll.
l. Ad. sk.	Flores (*A. R. Wallace*).	Tweeddale Coll.

5. Ceyx melanura.

Ceyx melanura, *Kaup, Fam. Eisv.* p. 15 (1848); *Gray, Cat. Fissir. Brit. Mus.* p. 59 (1848); *id. Gen. B.* iii. App. p. 5 (1849); *Bp. Consp.* i. p. 158 (1850); *Reichenb. Handb., Alced.* p. 9 (1851); *Cass. Cat. Halcyon. Philad. Mus.* p. 13 (1852: Amboina); *Cab. & Heine, Mus. Hein.* Th. ii. p. 151 (1860); *Sharpe, P. Z. S.* 1868, p. 271; *id. Monogr. Alced.* p. 117, pl. 39 (1868); *Gray, Hand-l. B.*

i. p. 94, no. 1144 (1869); *Salvad. Atti R. Accad. Torino*, iv. p. 453 (1869); *Sharpe, P. Z. S.* 1869, p. 511; *Tweedd. Trans. Z. S.* ix. p. 153 (1875); *Wardlaw Ramsay, Ibis*, 1884, p. 332 (Manila), 1886, p. 156; *Steere, List Birds & Mamm. Steere Exped. Philipp.* p. 9 (1890).

Dacelo melanura, *Schlegel, Mus. Pays-Bas*, Alced. p. 49 (1863).

Ceyx samarensis, *Steere, List Birds & Mamm. Steere Exped. Philipp.* p. 10 (1890).

? Ceyx platenæ, *Blasius, J. f. O.* 1890, p. 148.

Adult. General colour above lilac-rufous, washed with lilac; edge of wing rufous; scapulars rufous like the back, with a broad band of black on each side of the mantle; wing-coverts black, spotted minutely with bright blue; bastard-wing, primary-coverts, and quills black; tail-feathers rufous like the back, the lateral ones blackish; crown of head lilac-rufous, with faint but distinct spots of brighter lilac; lores pale orange; eyelid and a mark in front of the eye blackish; sides of face, ear-coverts, and cheeks lilac-rufous, succeeded by a band of white on the sides of the neck, above which is a spot of bright blue; throat white; fore neck, breast, sides of body, and flanks bright lilac-rufous; abdomen white; thighs and under tail-coverts rufous, as well as the under wing-coverts and axillaries and the inner edge of the quills. Total length 5 inches, culmen 1·2, wing 2·1, tail 0·7, tarsus 0·35.

Young. Exactly similar to the adults, but with a shorter and paler bill, the latter being horny whitish.

Hab. Philippine Archipelago.

Mr. Moseley showed me a specimen of *Ceyx samarensis* of Steere, and I could not perceive the slightest specific difference between it and a Manila specimen. Professor W. Blasius has also described a *Ceyx platenæ* from Mindanao (J. f. O. 1890, p. 148), which does not seem to me to differ from *C. melanura* in any important particular.

a. Juv. sk.	Philippine Islands (*H. Cuming*: *Sharpe Coll.*).	Tweeddale Coll.
b. Ad. sk.	Philippine Islands (*Sharpe Coll.*).	Tweeddale Coll.
c, *d*. Ad. sk.	Manila.	Gould Coll.
e, *f*. Ad. sk.	Manila (*Maitland-Heriot*).	Tweeddale Coll.

6. Ceyx basilanica *.

Ceyx basilanica, *Steere, List Birds & Mamm. Steere Exped. Philipp.* p. 10 (1890).

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* CEYX MINDANENSIS.

Ceyx mindanensis, *Steere, List Birds & Mamm. Steere Exped. Philip.* p. 10 (1890).

The description of this species shows that it must be very closely allied to *C. melanura*, and in that of *C. basilanica* we read: "White spot on side of neck *not preceded by the blue and black markings* found in the *preceding species*" (i. e. *C. mindanensis*). I have been unable to identify the species.

Adult male. Similar to *C. melanura*, and with the same lilac spots on the head; the wing-coverts, however, are rufous like the back, with mesial spots of lilac; tail cinnamon-rufous: "bill and feet bright pale red; iris dark brown" (*D. C. Worcester*). Total length 4·7 inches, culmen 1·5, wing 2·4, tail 0·7, tarsus 0·35.

Hab. Basilan.

a, b. ♂ ♀ ad. sk.	Basilan, Nov.	D. C. Worcester and F. C. Bourns [C.].

7. Ceyx cajeli.

Ceyx cajeli, *Wallace, P. Z. S.* 1863, p. 25, pl. v.; *Finsch, Neu-Guinea*, p. 161 (1865); *Sharpe, P. Z. S.* 1868, pp. 271, 595; *id. Monogr. Alced.* p. 127, pl. 44 (1868); *Salvad. Atti R. Accad. Sci. Torino*, iv. p. 468 (1869); *Sharpe, P. Z. S.* 1869, p. 509; *Gray, Hand-l. B.* i. p. 94, no. 1147 (1869); *Salvad. Ann. Mus. Genov.* viii. p. 375 (1876), x. p. 301 (1877); *id. Orn. Papuasia*, i. p. 416 (1880).

Dacelo cajeli, *Schl. Vog. Nederl. Ind.* Alced. pp. 39, 67, pl. 16. fig. 3 (1864); *id. Ned. Tijdschr.* iii. p. 339 (1866); *id. Mus. Pays-Bas, Alced. Revue*, p. 34 (1874).

Adult male (type of species). Crown of the head and wing-coverts black, with very minute spots of clear blue, each feather having a mesial streak of brighter colour; back silvery blue; scapulars and tail black; quills black, the inner web light reddish towards the base; lores light orange; a patch of feathers on each side of the neck white, tinged with orange; throat white; under surface of body light orange, deeper on the flanks; a considerable patch of feathers on the sides of the upper breast black: bill and feet pale coral-red; iris dark. Total length 5·5 inches, culmen 1·2, wing 2·5, tail 1, tarsus 0·3.

Adult female. Similar to the male in colour. Total length 5·8 inches, culmen 1·4, wing 2·35, tail 1, tarsus 0·4.

Hab. The island of Bourou in the Moluccas.

a. ♂ ad. sk.	Bourou.	Wallace Coll. (Type of species.)
b. ♀ ad. sk.	Bourou.	Wallace Coll.
c, d. Ad. sk.	Bourou (*A. R. Wallace*).	Tweeddale Coll.

8. Ceyx wallacii.

Ceyx lepida (*nec Temm.*), *Wallace, P. Z. S.* 1862, p. 338.

Ceyx wallacii, *Sharpe, P. Z. S.* 1868, p. 270; *id. Monogr. Alced.* p. 129, pl. 45 (1868).

Dacelo wallacii, *Schlegel, Mus. Pays-Bas, Alced. Revue*, p. 34 (1874).

Adult (type of species). Above black; head and nape spotted with cobalt, more on the latter, each feather having a mesial stripe of brighter blue; cheeks and wing-coverts streaked with bright cobalt; back very rich shining cobalt; the upper tail-coverts slightly tinged with ultramarine; scapulars black; quills and tail-feathers blackish, the inner web of the former light rufous towards the base; throat

whitish; loral spot and the whole of the under surface bright orange; a band along the sides of the neck deep orange; a patch at the sides of the upper breast black: "bill and feet coral-red; iris dark" (*A. R. Wallace*). Total length 5·5 inches, culmen 1·4, wing 2·5, tail 1, tarsus 0·3.

Hab. Sula Islands.

a. ♂ ad. sk.	Sula Islands.	Wallace Coll. (Type of species.)
b. Ad. sk.	Sula Islands.	Wallace Coll.

9. Ceyx lepida.

Ceyx lepida, *Temm. Pl. Col.* iv. pl. 595. fig. 1 (1836); *Less. Compl. Buff., Ois.* p. 649 (1838); *Gray, Cat. Fissir. Brit. Mus.* p. 59 (1849); *Bp. Consp.* i. p. 158 (1850); *Reichenb. Handb., Alced.* p. 10, Taf. 398. fig. 3066 (1851); *Cass. Cat. Halcyon. Philad. Mus.* p. 14 (1852); *Bp. Consp. Vol. Anis.* p. 9 (1854); *Hartl. J. f. O.* 1854, p. 414; *Gray, P. Z. S.* 1858, p. 190; *id. Cat. B. New Guinea*, p. 55 (1859); *id. P. Z. S.* 1860, p. 348 (Amboina; Batchian), 1861, p. 433; *Wall. P. Z. S.* 1862, pp. 335, 338 (pt.); *id. P. Z. S.* 1863, p. 25; *Rosenb. Nat. Tijdschr. Nederl. Ind.* xxv. p. 251 (1863); *id. J. f. O.* 1864, p. 118; *Finsch, Neu-Guinea*, p. 161 (1865); *Sharpe, P. Z. S.* 1868, pp. 271, 596; *id. Monogr. Alced.* p. 131, pl. 46 (1868); *Gray, Hand-l. B.* i. p. 94, no. 1145 (1869); *Salvad. Atti R. Accad. Sci. Torino*, iv. p. 471 (1869); *Sharpe, P. Z. S.* 1869, p. 509; *Salvad. Ann. Mus. Civ. Genov.* x. p. 30 (1877); *id. P. Z. S.* 1878, p. 81 (Amboina); *id. Orn. Papuasia*, i. p. 417 (1880); *id. Rep. Zool. H.M.S. 'Challenger,'* ii. p. 62 (1881); *Blasius & Nehrk. Verh. z.-b. Ges. Wien*, xxxii. p. 418 (1882: Amboina); *Blasius, P. Z. S.* 1882, p. 704 (Ceram); *Pleske, Bull. Acad. St. Pétersb.* xxix. p. 525 (1884: Ternate); *Guillem. P. Z. S.* 1885, p. 567 (Ternate); *Salvad. Agg. Orn. Papuasia*, i. p. 53 (1889).

Alcyone lepida, *Gray, Gen. B.* i. p. 82 (1847).

Ceyx uropygialis, *Gray, P. Z. S.* 1860, p. 348 (Batchian; Ternate); *Finsch, Neu-Guinea*, p. 161 (1865); *Sharpe, P. Z. S.* 1868, pp. 271, 596; *id. Monogr. Alced.* p. 133, pl. 47 (1869); *Salvad. Atti R. Accad. Sci. Torino*, iv. p. 474 (1869); *Gray, Hand-l. B.* i. p. 94, no. 1148 (1869); *Salvad. Ann. Mus. Civ. Genov.* v. p. 764 (1875).

Dacelo lepida, *Schl. Mus. Pays-Bas*, Alced. p. 48 (1863); *id. Vog. Nederl. Ind.* Alced. pp. 39, 66, pl. 16. figs. 4, 5 (1864); *id. Mus. Pays-Bas, Alced. Revue*, p. 34 (1874).

Alcedo lepida, *Rosenb. Reis. naar Geelvinkb.* p. 6 (1875).

Adult. Head, nape, cheeks, and wing-coverts black, plentifully spotted with rich ultramarine, each feather having a central stripe of brighter blue; scapulars black, washed with rich ultramarine; back very bright ultramarine, becoming silvery-blue towards the rump; quills blackish, the inner web rufous towards the base; tail blackish, tinged with ultramarine; throat and a longitudinal patch of feathers on the sides of the neck white, the latter tinged with orange; loral spot orange; entire under surface orange, paler on the abdomen; bill and feet coral-red. Total length 5·5 inches, culmen 1·5, wing 2·5, tail 1, tarsus 0·3.

Hab. Moluccas; islands of Amboina, Ceram, Matabello, Amblau, Great and Little Obi, Ternate, Tidore, Halmahera, Batchian, and Morty or Morotai.

a–c. Ad. sk.	Moluccas (*Sharpe Coll.*).	Tweeddale Coll.
d. ♂ ad. sk.	Amboina (*A. R. Wallace*).	Gould Coll.
e. ♀ ad. sk.	Amboina.	Voy. H.M.S. 'Challenger.'
f–h. Ad. sk.	Ceram.	Wallace Coll.
i, k. Ad. sk.	Ternate.	Hume Coll.
l. ♂ ad. sk.	Ternate (*Sharpe Coll.*).	Tweeddale Coll.
m. ♂ ad. sk.	Ternate (*A. R. Wallace*).	Gould Coll.
n–q. Ad.; *r.* Juv. sk.	Batchian (*A. R. W.*).	Wallace Coll.
s, t. Ad. sk.	Halmahera (*A. R. W.*).	Wallace Coll.

10. Ceyx sacerdotis.

Ceyx sacerdotis, *Ramsay, Journ. Linn. Soc., Zool.* xvi. p. 128 (1882).
Ceyx solitaria (*nec Temm.*), *Grant, P. Z. S.* 1888, p. 193 (Guadalcanar).

Adult. General colour above black, washed with deep ultramarine, the head and wing-coverts spotted with this colour; lower back brighter and more cobalt-blue; quills and tail black; a large loral spot of orange-rufous; sides of face and cheeks deep ultramarine-blue; on the sides of the neck a band of yellowish white; throat yellowish white; under surface of body orange, with a small blackish patch on the sides of the upper breast; under wing-coverts orange; quills blackish below, rufous along the inner web: "bill, legs, and iris red" (*C. M. Woodford*). Total length 5·5 inches, culmen 1·45, wing 2·3, tail 0·95, tarsus 0·35.

Hab. New Britain and the Solomon Islands.

a. ♀ imm. sk.	New Britain.	Dr. Kubary [C.].
b. Ad. sk.	Aola, Guadalcanar, June 27.	C. M. Woodford, Esq. [C.].

11. Ceyx malamaui.

Ceyx malamaui, *Steere, List Mamm. & Birds Steere Exped. Philipp.* p. 11 (July 1890).
Ceyx suluensis, *Blasius, J. f. O.* 1890, p. 141 *.

Adult male (type of *C. suluensis*). General colour above brilliant silvery cobalt, rather deeper blue on the scapulars and centre of the back; crown of head like the back, each feather with a distinct median streak of glistening blue; wing-coverts black, light cobalt at the ends, with a median line of silvery blue; quills and tail black, slightly washed with blue; a very large loral spot of deep orange-rufous; sides of face and ear-coverts brilliant blue like the head; on the sides of the neck a streak of buffy white; cheeks deep

* This part of the 'Journal für Ornithologie' bears the date of April 1890, but was received in England for the first time in November.

orange-rufous; throat whitish; remainder of the under surface orange, the sides of the upper breast deeper orange-rufous, as also the under wing-coverts and axillaries; quills dusky below, rufous along the inner web: "bill and feet coral-red; iris brown" (*Dr. Platen*). Total length 5·5 inches, culmen 1·45, wing 2·65, tail 0·95, tarsus 0·4. (*Mus. Brunsv.*)

Young. Similar to the adult, but not so richly coloured, and with a shorter and more dusky bill, whitish horn-colour; scapulars black, washed with blue; the entire back silvery white with a greenish-blue tinge; head and wing-coverts black, spotted with bright cobalt; sides of face and under surface as in the adult.

Hab. Sulu Islands and island of Basilan.

a. Ad. sk. Isabella de Basilan, Nov. 14. F. S Bourns, Esq. [C.].

12. Ceyx bournsi.

Ceyx bournsii, *Steere, List Birds & Mamm. Steere Exped. Philippines*, p. 10 (1890).
Ceyx margarethæ, *Blasius, J. f. O.* 1890, p. 141 *.

Adult female (type of *C. margarethæ*). General colour above rich ultramarine-blue, the head like the back; wing-coverts black, washed with ultramarine on the edges; quills and tail-feathers black, slightly washed with ultramarine; a large loral patch of orange-rufous; sides of face and ear-coverts rich ultramarine like the crown; cheeks deep orange like the loral patch; on the sides of the neck a streak of buffy white; throat white; under surface of body orange, lighter on the abdomen; under wing-coverts and axillaries like the breast; quills blackish below, rufous along the inner web: "bill and feet coral-red; iris brown" (*Dr. Platen*). Total length 5 inches, culmen 1·4, wing 2·6, tail 0·9, tarsus 0·4. (*Mus. Brunsv.*)

Young. Similar to the adult, but less brilliant and with a duller red bill; the head and scapulars and wing-coverts black, with blue ends to the feathers; the blue of the back lighter than in the adult, and inclining to cobalt on the lower back; loral spot as large as in the adult.

Hab. Basilan and Sulu Islands.

13. Ceyx cyanipectus.

Ceyx cyanopectus, *Lafr. Rev. Zool.* 1840, p. 33; *Gray, Gen. B.* ii. App. p. 5 (1848); *Wardlaw Ramsay, Ibis*, 1884, p. 332, pl. ix.; *id. Ibis*, 1886, p. 156 (Manila); *Steere, List Birds & Mamm. Steere Exped. Philipp.* p. 10 (pt. 1890: Marinduque).

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* The first appearance of this name was in a newspaper, the 'Braunschweigische Anzeiger' of the 15th of May, 1890. If this publication be deemed admissible, which English rules of nomenclature do not allow, then Blasius' name would supersede that given by Steere. The description of the latter author was issued in July, whereas the April 'Heft' of the 'Journal für Ornithologie' was not received in England till November.

Alcyone cyanopectus, *Jard. Contr. Orn.* 1850, p. 82; *Bp. Consp.* i. p. 158 (1850); *Reichenb. Handb., Alced.* p. 71, Taf. 396. fig. 3060 (1851); *Bp. Consp. Volucr. Anis.* p. 10 (1854); *Hartl. J. f. O.* 1854, p. lxiv; *Sharpe, P. Z. S.* 1869, p. 353; *id. Monogr. Alced.* p. 55, pl. 17 (1869); *Walden, Trans. Z. S.* ix. pp. 153, 249 (1875); *Wardlaw-Ramsay, App. Tweedd. Mem.* p. 655 (1881).

Alcyone cincta, *Jard. Contr. Orn.* 1850, p. 82, pl. only.

Alcedo cyanipectus, *Schl. Mus. Pays-Bas*, Alced. p. 18 (1863); *Gray, Hand-l. B.* i. p. 95, no. 1161 (1869).

Ceyx philippinensis, *Gould, P. Z. S.* 1868, p. 404; *Sharpe, Monogr. Alced.* p. 113, pl. 37 (1869); *Walden, Trans. Z. S.* ix. pp. 153, 249 (1875); *Wardlaw Ramsay, Tweedd. Mem.* App. p. 654 (1881).

Adult female. General colour above bright cobalt-blue from the mantle to the upper tail-coverts: the scapulars black washed with indigo; wing-coverts black washed with blue, through which runs a shaft-line of bright cobalt; bastard-wing, primary-coverts, and quills black, externally washed with indigo-blue; centre tail-feathers blue, the remainder black; crown of head, nape, and hind neck blue-black, spangled with tiny spots of bright cobalt, larger on the hind neck; a loral spot of orange-chestnut; ear-coverts and cheeks blue-black, spotted with cobalt like the crown; on the sides of the neck a band of pale orange-rufous, whitish anteriorly; chin and upper throat white, tinged with rufous; lower throat, fore neck, breast, and abdomen rich orange-chestnut, as well as the sides of the body and the under wing- and tail-coverts; the long under tail-coverts deep blue; on the sides of the breast a large patch of deep ultramarine-blue, forming a broad half-collar. Total length 5·5 inches, culmen 1·45, wing 2·35, tail 0·85, tarsus 0·4.

Adult male. Similar to the female, but differing in the colour of the under surface, which is crossed by a broad pectoral band of deep indigo-blue; the sides of the body also blue, but brighter and more ultramarine, forming a second incomplete band across the lower portion of the breast. Total length 5·5 inches, culmen 1·6, wing 2·25.

It is not easy to understand exactly what Prof. Steere means by his remark on this species. It has hitherto been supposed to be confined to the island of Luzon, but the above-named traveller records it from Mindoro and Marinduque. The specimen from Marinduque is said to have the upper mandible reddish brown, while in the Mindoro specimen it is black. I consider the latter to belong to a distinct species (*vide infrà*).

Hab. Luzon and Marinduque.

a. ♂ ad. sk.	Philippines.	Eyton Coll. (Type of species.)
b. ♀ ad. sk.	Philippines.	Eyton Coll.
c. ♂ ad. sk.	Philippines.	Purchased.
d. ♀ ad. sk.	Manila.	Gould Coll. (Type of *Ceyx philippinensis*.)
e, *f*. ♂ ad.; *g*, *h*. ♀ ad. sk.	Manila (*Maitland Heriot*).	Tweeddale Coll.

14. Ceyx steerii.

Ceyx philippinensis, *Steere, List Birds & Mamm. Steere Exped. Philipp.* p. 10 (1890, pt.).

Adult female. Similar to *C. cyanipectus*, but distinguished by the dull reddish colour of the under surface. Total length 5·5 inches, culmen 1 45, wing 2·35, tail 0·85, tarsus 0·4.

Hab. Island of Mindoro in the Philippines.

a. ♀ ad. sk. Mindoro, June 22. F. S. Bourns, Esq. [C.].

15. Ceyx argentata.

Ceyx argentata, *Tweedd. Ann. & Mag. N. H.* (4) xx. p. 533 (1877) (Dinagat); *id. P. Z. S.* 1877, p. 822 (Placer); *id. P. Z. S.* 1878, p. 108, pl. vi. (Dinagat), p. 943 (Zamboanga); *Steere, List Birds & Mamm. Steere Exped. Philipp.* p. 10 (1890).

Adult male. General colour above black, with spots of silvery white along the sides of the crown, and a few spots of greenish blue or silvery white on the hind neck; entire back, rump, and upper tail-coverts silvery white, with here and there a subterminal shade of greenish blue; scapulars and wing-coverts black; the median wing-coverts with tiny terminal specks of greenish blue, the greater series with larger spots of silvery white; bastard-wing, primary-coverts, and quills black; tail black, with some of the lower upper tail-coverts greenish blue; lores pale rufescent; ear-coverts and cheeks black; on the sides of the neck a band of ochreous white; throat white with a slight ochreous tinge; sides of breast black; breast and sides of body black, washed with deep blue; abdomen white; thighs and under tail-coverts black; under wing-coverts and axillaries white, as also the edge of the wing; the coverts bordering the entire bend of the wing black; quills black below: "bill black; feet pale reddish; iris brown" (*A. Everett*). Total length 5 inches, culmen 1·5, wing 2·35, tail 0·8, tarsus 0·35.

Hab. Mindanao and Dinagat.

a. ♀ ad. sk. Dinagat, June (*A. Everett*). Tweeddale Coll. (Type of species.)

b. ♂ ad. sk. Placer, July (*A. Everett*). Tweeddale Coll.

16. Ceyx fluminicola.

Ceyx argentata (*nec Tweedd.* 1877), *Tweedd. P. Z. S.* 1878, p. 341 (S. Leyte).

Ceyx flumenicola, *Steere, List Birds & Mammals Steere Exped. Philippines*, p. 10 (1890).

Adult male. Similar to *C. argentata*, but differing in having the breast and sides of the body black washed with ultramarine or purplish blue: "bill black; legs and feet scarlet, the nails brown; iris brown" (*D. G. Worcester*). Total length 5 inches, culmen 1·45, wing 2·4, tail 0·9, tarsus 0·4.

Adult female. Similar to the male in colour. Total length 5·5 inches, culmen 1·45, wing 2·3, tail 0·85, tarsus 0·35.

The specimen from Leyte is more ultramarine on the breast than those from Samar, which incline to purplish blue; but Professor Steere unites the birds from the two islands, and thus the Leyte specimen in the Museum may be immature, especially as it has the throat and abdomen tinged with buff. This last character Prof. Steere considers to be specific, but I feel sure that it is a sign of immaturity.

Hab. Islands of Samar and Leyte.

a. ♂ ad. sk.	Samar, March 31.	F. S. Bourns, Esq. [C.].
b. ♀ ad. sk.	Samar, March 28.	D. C. Worcester, Esq. [C.].
c. ♂ ad. sk.	S. Leyte, Oct. (*A. Everett*).	Tweeddale Coll.

17. Ceyx gentiana.

Ceyx gentiana, *Tristr. Ibis*, 1879, p. 438, pl. xi.; *id. Ibis*, 1882, p. 143; *Ramsay, t. c.* p. 345; *Ramsay, Proc. Linn. Soc. N. S. Wales*, vii. p. 20 (1882); *Sharpe in Gould's B. N. Guin.* iv. pl. 46 (1886); *Salvad. Agg. Orn. Papuasia*, i. p. 53 (1889).

Adult female (type of species). Mantle and scapulars black, washed with purplish blue, the feathers being mesially streaked with dark cobalt; entire back, rump, and upper tail-coverts bright silvery greenish cobalt, a little more purplish on the latter; lesser, median, and inner greater coverts black, tipped with purplish blue, with a narrow mesial line of cobalt; remainder of the greater coverts, bastard-wing, primary-coverts, and quills black, slightly shaded with purplish blue externally; tail-feathers black, edged with purplish blue; crown of head black, all the feathers tipped with purplish blue, each feather with a central line of brighter cobalt; the spots thicker on the nape and hind neck, which appear almost entirely purplish blue; lores and base of forehead black, with a white loral spot; feathers round eye, ear-coverts, and cheeks black, the feathers mesially streaked with purplish blue; throat and under surface of body white, as also a longitudinal patch on the sides of upper breast, with a patch of black feathers washed with blue; flanks with black streaks; thighs blackish; under tail-coverts white, tipped with purplish blue; under wing-coverts and axillaries white, with a black bar across the former; quills below dusky, white along the edge of the inner web: "bill black; feet flesh-colour; iris bluish-black" (*G. E. Richards*). Total length 5·5 inches, culmen 1·55, wing 2·55, tail 1·1, tarsus 0·45. (*Mus. H. B. Tristram.*)

Hab. San Christoval, Solomon Islands.

18. Ceyx solitaria.

Ceyx meninting (*nec Horsf.*), *Less. Voy. Coquille*, i. pt. 2, p. 691 (1826); *Pucher. Rev. et Mag. de Zool.* 1861, p. 345.

Ceyx solitaria, *Temm. Pl. Col.* iv. pl. 595. fig. 2 (1836); *Müll. Verh. Land- en Volkenk.* p. 22 (1839–44); *Gray, P. Z. S.* 1858, pp. 172, 190; *id. Cat. B. New Guinea*, pp. 21, 55 (1859); *id. P. Z. S.* 1859, p. 155, 1861, p. 433; *Finsch, Neu-Guinea*, p. 161 (1865); *Rosenb. Reis naar. Zuidoostereil.* p. 35 (1867); *Sharpe, P. Z. S.* 1868, pp. 271, 597; *id. Monogr. Alced.* p. 115, pl. 38 (1868); *Gray, Hand-l. B.* i. p. 95, no. 1150 (1869); *Salvad. Atti R. Accad. Sci. Torino*, iv. p. 468 (1869); *Sharpe, P. Z. S.* 1869, p. 509; *Salvad. Ann. Mus. Civ. Genov.* vi. p. 764 (1875: Batanta), viii. p. 397 (1876: Krudu); *Scl. P. Z. S.* 1876, p. 360 (New Guinea), 1877, p. 105; *Gould, B. New Guin.* iv. pl. 45 (1876); *Salvad. Ann. Mus. Civ. Genov.* x. pp. 126, 301 (1877); *Ramsay, Proc. Linn. Soc. N. S. W.* iii. p. 259 (1878); *Sharpe, Journ. Linn. Soc., Zool.* xiii. p. 492 (1878); *D'Albert. & Salvad. Ann. Mus. Civ. Genov.* xiv. p. 49 (1879); *Ramsay, Proc. Linn. Soc. N. S. W.* iv. p. 96 (1879); *Salvad. Orn. Papuasia*, i. p. 420 (1880); *Sharpe, Journ. Linn. Soc., Zool.* xvi. p. 429 (1882: Taburi; Milne Bay); *Meyer, Zeitsch. ges. Orn.* i. p. 275 (1884: Aru Islands); *Nehrk. J. f. O.* 1885, p. 31 (Waigiou); *Guillem. P. Z. S.* 1885, p. 626 (Salawati: Waigiou); *Salvad. Agg. Orn. Papuasia*, i. p. 53 (1889).

Alcyone solitaria, *Gray, Gen. B.* i. p. 82 (1847); *Bp. Consp.* i. p. 158 (1850); *Reichenb. Handb., Alced.* p. 7, Taf. 398. fig. 3067 (1851); *Bp. Consp. Vol. Anis.* p. 10 (1854); *Rosenb. Nat. Tijdschr. Nederl. Ind.* xxv. p. 231 (1863); *id. J. f. O.* 1864, p. 118.

Therosa solitaria, *Müll. MSS., teste Bp. Consp.* i. p. 158 (1850).

Alcedo meninting (*nec Horsf.*), *Scl. Journ. Proc. Linn. Soc.* ii. p. 156 (1858).

Alcedo solitaria, *Schl. Mus. Pays-Bas*, Alced. p. 17 (1863); *id. Vog. Nederl. Ind.* Alced. pp. 12, 48, pl. 3. fig. 5 (1864); *id. Mus. Pays-Bas*, Alced. *Revue*, p. 9 (1874); *Rosenb. Reis. naar Geelvinkb.* p. 195 (1875).

Ceyx (Therosa) solitaria, *Salvad. Atti R. Accad. Torino*, iv. p. 474 (1879).

Adult. Head and nape black, banded with bright ultramarine; back and scapulars rich ultramarine; cheeks and wing-coverts black, spotted with bright ultramarine; quills blackish, the inner web dusky towards the base, the secondaries narrowly edged with blue; tail black, edged with blue; throat white; loral spot and a longitudinal band along the sides of the neck yellowish white; entire under surface light orange: bill entirely black; feet orange. Total length 5 inches, culmen 1·3, wing 2·1, tail 0·8, tarsus 0·2.

Hab. New Guinea, Waigiou, Batanta, Mysol, Krudu, Jobi, Misori, Aru Islands, New Ireland.

a. Ad. sk.	[New Guinea: *Sharpe Coll.*]	Tweeddale Coll.
b, c. Ad. et jun. sk.	Salawati.	Wallace Coll.
d. Ad. sk.	Milne Bay, S.E. New Guinea.	C. Hunstein [C.].
e. ♀ ad. sk.	Mysol (*A. R. Wallace*: *Sharpe Coll.*).	Tweeddale Coll.
f. ♀ ad. sk.	Aru Islands.	Wallace Coll.
g–n. Ad. sk.	Aru Islands (*J. T. Cockerell*).	Salvin-Godman Coll.
o. Ad. sk.	New Ireland (*Rev. G. Brown*).	Tweeddale Coll.

7. CEYCOPSIS.

Type.
Ceycopsis, *Salvad. Atti R. Accad. Torino*, iv. p. 447 (1869). C. fallax.

Range. Confined to Celebes and the Sanghir Islands.

1. Ceycopsis fallax.

Dacelo fallax, *Schl. Nederl. Tijdschr.* iii. p. 187 (1866).
Ceycopsis fallax, *Salvad. Atti R. Accad. Torino*, iv. p. 447 (1869); *Sharpe, Monogr. Alced.* p. 135, pl. 48 (1869); *Meyer, Ibis*, 1879, p. 63.
Ceyx fallax, *Gray, Hand-l. B.* iii. p. 227 (1871).

Adult. General colour above deep cinnamon-rufous; lower back, rump, and upper tail-coverts cobalt, with a beautiful lilac gloss, the tail-coverts lilac-blue; wing-coverts duller cinnamon than the back, spotted with lilac; bastard-wing, primary-coverts, and quills blackish, the secondaries rufous at the ends of the outer webs, the innermost cinnamon-rufous like the back; entire crown and nape black, each feather tipped with bright ultramarine-blue; lores and sides of face cinnamon-rufous, washed with lilac on the cheeks and ear-coverts; behind the latter a band of white feathers; throat white; remainder of under surface of body rufous with a shade of beautiful lilac, especially on the lower breast and abdomen, which are isabelline; under wing-coverts and axillaries rufous, as well as the quill-lining: "bill brilliant red, only the middle of the upper mandible blackish; feet and claws brilliant red; iris dark brownish" (*A. B. Meyer*). Total length 4·7 inches, culmen 1·6, wing 2·4, tail 1, tarsus 0·35.

Young. More dusky on the upper surface than the adult, much browner; the lower back and rump brilliant silvery cobalt, but without lilac shading; the under surface is also more ferruginous, without lilac shades.

Hab. Celebes and Sanghir Islands.

a, *b*.	Ad. sk.	Menado, N. Celebes.	Tweeddale Coll.
c, *d*.	Ad. sk.	Sanghir Islands (*A. B. Meyer*).	Tweeddale Coll.

8. ISPIDINA.

Type.
Ispidina, *Kaup, Fam. Eisv.* p. 11 (1848) ..... I. picta.

Range. Confined to Africa and Madagascar.

Key to the Species.

a. Back bright ultramarine.
  a'. Abdomen orange-rufous.
    a''. No blue spot behind the ear-coverts.. *picta*, p. 191.
    b''. A blue spot behind the ear-coverts .. *natalensis*, p. 193.
  b'. Abdomen white ..... *leucogaster*, p. 193.
b. Back lilac-red ..... *madagascariensis*, p. 194.

1. Ispidina picta.

Todier de Juida, *Daubent. Pl. Enl.* pl. 783.
Todier bleu à ventre orangé, *Buff. Hist. Nat. Ois.* vii. p. 229 (1780).
Blue Tody, *Lath. Gen. Syn.* i. pt. 2, p. 695 (1782).
Todus pictus, *Bodd. Tabl. Pl. Enl.* p. 49 (1783).
Todus cæruleus, *Gm. Syst. Nat.* i. p. 444 (1788).
Alcedo pusilla (*nec Temm.*), *Shaw & Nodd. Nat. Misc.* v. pl. 159 (1793).
Alcedo nutans, *Vieill. N. Dict.* xix. p. 412 (1818).
Alcedo ultramarina, *Daud. Ann. Mus. d'Hist. Nat.* ii. p. 443, pl. 62. fig. 2 (1833); *Shaw & Nodd. op. cit.* xxi. pl. 901 (1809).
Alcedo cærulea, *Rüpp. Neue Wirb., Vög.* p. 70 (1835); *Bp. Consp.* i. p. 158 (1850); *Heugl. Syst. Uebers.* p. 18 (1856); *Antin. Cat. descr. Ucc.* p. 29 (1864); *Hartl. J. f. O.* 1866, p. 201.
Halcyon cyanotis, *Swains. B. W. Afr.* ii. p. 103 (1837); *Jard. Contr. Orn.* 1849, p. 6.
Alcedo picta, *Gray & Mitch. Gen. B.* i. p. 81, pl. 28 (1847); *id. Cat. Fissir.* p. 65 (1848); *Schl. Mus. Pays-Bas*, Alced. p. 16 (1863); *Gray, Hand-l. B.* i. p. 96, no. 1170 (1869); *Cab. J. f. O.* 1878, p. 235 (Kitui); *Fischer & Reichen. t. c.* p. 256; *Fischer, t. c.* p. 288; *Büttik. Notes Leyden Mus.* vii. p. 160 (1885); *Reichen. J. f. O.* 1887, p. 309 (Kassongo).
Ispidina picta, *Kaup, Fam. Eisv.* p. 12 (1848); *Reichenb. Handb., Alced.* p. 6, Taf. 397. figs. 3361–62 (1851); *Cass. Cat. Halc. Philad. Mus.* p. 12 (1852); *Verr. Rev. et Mag. de Zool.* 1855, p. 274; *Gurney, Ibis*, 1859, p. 153 (Ibadan); *Cab. & Heine, Mus. Hein.* Th. ii. p. 146 (1860); *Sharpe, Monogr. Alced.* p. 141, p. 51 (1869); *id. P. Z. S.* 1869, p. 568 (Angola); *Heugl. Orn. N.O.-Afr.* i. p. 183 (1869); *Blanf. Geol. & Zool. Abyss.* p. 323 (1870); *Finsch, Trans. Z. S.* vii. p. 223 (1870); *id. & Hartl. Vög. Ostafr.* p. 171 (1870); *Sharpe, P. Z. S.* 1871, p. 603 (Cameroons); *Antin. & Salvad. Viagg. Bogos*, p. 67 (1873: Bogos); *Ussher, Ibis*, 1874, p. 50 (Gold Coast); *Sharpe & Bouvier, Bull. Soc. Zool. France*, i. p. 40 (1876: Congo); *Bocage, Orn. Angola*, p. 99 (1877); *Nichols. P. Z. S.* 1878, p. 131 (Abeokuta); *Pelz. Verh. z.-b. Ges. Wien*, xxxi. p. 143 (1881: Magungo); *Shelley, P. Z. S.* 1881, p. 568 (Dar-es-Salaam); *Hartl. Abhandl. nat. Ver. Bremen*, viii. p. 207 (1882: Lado); *Sharpe, Journ. Linn. Soc., Zool.* xvii. p. 435 (1884: Niam-Niam); *Fischer, Zeitschr. ges. Orn.* i. p. 361 (1884: Nguruman); *Salvad. Ann. Mus. Civic. Genov.* (2) i. p. 113 (1885; Shoa); *Fischer, J. f. O.* 1885, p. 126 (Zanzibar, Usegua, Mombasa, Malindi); *Schalow, J. f. O.* 1886, pp. 421, 432 (Lualaba); *Salvad. Ann. Mus. Civic. Genov.* (2) vi. p. 223 (1888); *Büttik. Notes Leyden Mus.* x. p. 71 (1888: Liberia), xi. p. 117 (1889); *Shelley, P. Z. S.* 1888, p. 41 (Wadelai); *id. Ibis*, 1890, p. 167 (Aruwhimi R.); *Sharpe, App. Jameson's Rear-Column*, p. 408 (1890).
Alcedo purpurea (*nec Gm.*), *Des Murs in Lefebvre's Voy. Abyss., Zool.* p. 82 (1848).
Ispidina cærulea, *Bp. Consp. Volucr. Anis.* p. 9 (1854).
Alcedo cyanotis, *Hartl. J. f. O.* 1854, p. 4; *id. Orn. W.-Afr.* p. 35 (1857).
Ispidina cyanotis, *Hartl. J. f. O.* 1861, p. 105; *Brehm, Reis. Habesch*, pp. 16, 210 (1863); *Heugl. J. f. O.* 1864, p. 333; *Forbes, Ibis*, 1883, p. 521 (R. Niger).

Adult male. General colour above rich ultramarine-blue; wing-coverts black, with a spot of deep blue at the end; quills and tail black, washed externally with blue; crown black, barred with blue; narrowing towards the hind neck, which has a collar of orange-rufous, tinged with lilac; lores and a broad eyebrow, sides of face, cheeks, and under surface of body orange-rufous, washed with lilac on the sides of the face and sides of neck; on the latter a streak of buffy white; throat pure white; under wing-coverts orange like the breast; quills dusky blackish below, dull rufous along the inner web: "bill and feet coral-red; iris dusky brown" (*Heuglin*). Total length 4·6 inches, culmen 1·05, wing 1·9, tail 0·9, tarsus 0·3.

Adult female. Similar to the male, but the colours scarcely so bright. Total length 4·7 inches, wing 2·05.

Young. Similar to the adults, but distinguished by the black bill, and the colour of the back, which is spangled with bright cobalt edges to the feathers; the bars on the head and the spots on the wing-coverts also bright cobalt.

Hab. West Africa from Angola to Senegambia, throughout the Congo basin to Niam-Niam and Equatorial Africa, thence to Abyssinia and Bogos.

a. ♂ ad. sk.	River Quanza, Angola, May (*J. J. Monteiro*).	Sharpe Coll.
b. Ad. sk.	River Quanza.	Shelley Coll.
c. Ad. sk.	River Congo.	Riocour Coll. (*A. nutans*, V.)
d. ♂ ad. sk.	Landana, R. Congo (*L. Petit*).	Shelley Coll.
e. ♀ ad. sk.	Condé, R. Congo (*L. Petit*).	Shelley Coll.
f. Ad. sk.	Gaboon (*A. Marche*).	Shelley Coll.
g. Ad. sk.	Gaboon (*Sharpe Coll.*).	Tweeddale Coll.
h. Ad. sk.	Cameroons (*A. Crossley*).	Sharpe Coll.
i, *k*. Ad. sk.	Cameroons (*Sharpe Coll.*).	Tweeddale Coll.
l–*n*. Ad. sk.	Abeokuta.	F. Nicholson, Esq. [P.].
o. Ad. sk.	River Volta (*Governor Ussher*).	Sharpe Coll.
p, *q*. Ad. et juv. sk.	Fantee.	Sharpe Coll.
r. Imm. sk.	Fantee (*Governor Ussher*).	Sharpe Coll.
s. ♂ ad. sk.	Connor's Hill, Cape Coast, March 7 (*G. E. S.*).	Shelley Coll.
t, *u*. ♀ ad. sk.	Cape Coast Castle, Jan., March (*T. E. Buckley*).	Shelley Coll.
v. Juv. sk.	Commendah, June (*H. F. Blissett*).	Shelley Coll.
w. Ad. sk.	Ashanti.	Gould Coll.
x. ♀ ad. sk.	Senegal (*Sharpe Coll.*).	Tweeddale Coll.
y. Juv. sk.	Semmio, Niam-Niam, May.	F. Bohndorff [C.].
z. ♀ ad. sk.	Wadelai, July 16.	Emin Pasha [P.].
a'. ♂ ad. sk.	Kokai, Lebka Valley, Bogos, Aug. 9.	W. T. Blanford, Esq. [P.].
b', *c'*. ♂ ♀ ad.	Bogos Land, July, Aug. (*W. Jesse*).	Tweeddale Coll.
d'. ♂ ad. sk.	Bejook, July 15 (*W. J.*).	Shelley Coll.
e'. ♂ ad. sk.	Waliko, July 31 (*W. J.*).	Salvin-Godman Coll.

2. Ispidina natalensis.

Alcedo natalensis, *Smith*, *S. Afr. Q. Journ.* no. 5, p. 14 (1831); *Layard*, *B. S. Afr.* p. 66 (1867).
Ispidina nitida, *Kaup*, *Fam. Eisv.* p. 13 (1848); *Reichenb. Handb.*, *Alced.* p. 6 (1851).
Alcedo nitida, *Gray*, *Cat. Fissir. Brit. Mus.* p. 65 (1848); *id. Gen. B.* iii. App. p. 5 (1849); *Hartl. J. f. O.* 1854, p. 4; *id. Orn. W.-Afr.* p. 36 (1857).
Corythornis nitida, *Bp. Consp. Volucr. Anis.* p. 10 (1854).
Alcedo picta (*nec Bodd.*), *Jard. Edinb. New Philos. Journ.* new ser. iii. p. 242 (1856); *Hartl. & Finsch*, *Vög. Ostafr.* p. 171 (1870).
Alcedo picturata, *Schl. Mus. Pays-Bas*, Alced. p. 16 (1863).
Ispidina picta (*nec Bodd.*), *Cass. Cat. Halc. Philad. Mus.* p. 12 (1852, pt.); *Gurney*, *Ibis*, 1859, p. 246.
Alcedo mutans (*nec V.*), *Bianc. Spec. Zool. Mosamb.* fasc. xviii. p. 320 (1867).
Halcyon cyanotis (*nec Swains.*), *Layard*, *B. S. Afr.* p. 64 (1867).
Ispidina natalensis, *Sharpe*, *Ibis*, 1869, pp. 281, 283; *id. Monogr. Alced.* p. 145, pl. 52 (1869); *Gurney*, *Ibis*, 1873, p. 259 (Natal); *Shelley*, *Ibis*, 1875, p. 69 (Natal); *Sharpe*, *ed. Layard's B. S. Afr.* pp. 113, 807 (1875–84); *Butler*, *Feilden*, *& Reid*, *Zool.* 1882, p. 207.
Alcedo coronata, *Smith* (ubi?), *teste Gray*, *Hand-l. B.* i. p. 96, no. 1171 (1869).

Adult. Similar to *I. picta*, but distinguished by a spot of bright blue behind the ear-coverts; the orange-rufous collar round the hind neck is more extended, and the cap on the crown much more confined, not reaching beyond the occiput. Total length 4·5 inches, culmen 1·05, wing 2·05, tail 0·9, tarsus 0·35.

Young. Similar to the adults, but distinguished by its black bill, and the cobalt-blue on the back, crown, and wing-coverts.

Hab. S.E. Africa from Natal to the Zambesi, and thence to the Zanzibar district in Eastern Africa.

a, *b*. Imm. sk.	S.E. Africa.	Sharpe Coll.
c. Juv. sk.	S.E. Africa.	Old Coll. (Type of *I. nitida*.)
d, *e*. Ad. et imm. sk.	Natal.	Gould Coll.
f. Ad. sk.	Natal (*Sharpe Coll.*).	Tweeddale Coll.
g, *h*, *i*, *k*. Ad. et juv. sk.	Durban (*Gordge*).	Shelley Coll.
l, *m*. Ad. sk.	Zambesi (*Sharpe Coll.*).	Tweeddale Coll.
n. Ad. sk.	Dar-es-Salaam (*Sir J. Kirk*).	Shelley Coll.

3. Ispidina leucogaster.

Halcyon leucogaster, *Fraser*, *P. Z. S.* 1846, p. 4; *Gray*, *Gen. B.* i. p. 79 (1846); *Allen & Thompson*, *Exped. Niger*, ii. p. 503 (1848).
Alcedo leucogaster, *Kaup*, *Verh. nat. Ver. Darmst.* 1848, p. 75; *id. Fam. Eisv.* p. 13 (1848); *Gray*, *Cat. Fissir. Brit. Mus.* p. 64 (1848); *Fraser*, *Zool. Typ.* p. 32 (1849); *Bp. Consp.* i. p. 159 (1850); *Strickl. Contr. Orn.* 1851, p. 134; *Verr. Rev. Zool.* 1851, p. 268; *Hartl. J. f. O.* 1854, p. 4; *id. Orn. W.-Afr.* p. 35 (1857);

Cass. Proc. Philad. Acad. 1857, p. 37; *Jard. Mem. Strickl.* p. 331 (1858); *DuChaillu, Equat. Afr.* p. 472 (1861); *Gray, Hand-l. B.* i. p. 96, no. 1169 (1869).

Ispidina leucogastra, *Reichenb. Handb., Alced.* p. 6, Taf. 395. fig. 3056 (1851); *Cass. Cat. Halcyon. Phil. Mus.* p. 13 (1852); *Sharpe, Monogr. Alced.* p. 139, pl. 50 (1868); *Ussher, Ibis*, 1874, p. 50 (Gold Coast); *Büttik. Notes Leyd. Mus.* x. p. 71 (1888: Liberia), xi. p. 117 (1889).

Corythornis leucogastra, *Bp. Consp. Volucr. Anis.* p. 10 (1854).

Adult. General colour above rich ultramarine-blue; head black, barred with ultramarine; wing-coverts black, washed with blue on the edges; quills and tail black, washed with blue externally, the first primary margined with rufous; a large loral spot of bright ferruginous, separated by a black line on the forehead; a narrow eyebrow ferruginous, washed with lilac posteriorly; a band of white on the sides of the neck; entire throat, breast, and abdomen white; sides of face, cheeks, ear-coverts, sides of neck, and entire sides of body bright ferruginous; under tail-coverts white tinged with rusty; under wing-coverts, axillaries, and quill-lining ferruginous: "bill and feet red; iris black" (*J. Büttikofer*). Total length 4·5 inches, culmen 1·2, wing 2·2, tail 0·85, tarsus 0·3.

Young. Differs from the adult in its entirely black bill, lighter blue back, and in the colour of the crown, which is ferruginous, as well as the hind neck, the hinder crown only being black, barred with blue.

In one specimen in the Museum the bill is red, but the head is almost entirely ferruginous, as in the nestling.

Hab. West Africa, from Sierra Leone to the Congo.

a. Imm. sk.	Sierra Leone.	Gould Coll.
b, c. Juv. sk.	Sierra Leone.	H. C. Hart, Esq. [P.].
d. Ad. sk.	Fantee (*Governor Ussher*).	Shelley Coll.
e. Ad. sk.	Fantee (*Governor Ussher*).	Sharpe Coll.
f. Ad. sk.	Ashantee.	Tweeddale Coll.
g, h. Ad. sk.	Gaboon.	Gould Coll.
i. Ad. sk.	Gaboon (*Walker*).	Sharpe Coll.
k. Ad. sk.	Fernando Po.	L. Fraser [C.]. (Type of species.)
l. ♂ ad. sk.	Landana, R. Congo (*L. Petit*).	Shelley Coll.

4. Ispidina madagascariensis.

Le Martin-pescheur de Madagascar, *Briss. Orn.* iv. p. 508, pl. 38. fig. 1 (1760).

Alcedo madagascariensis, *Linn. Syst. Nat.* i. p. 179 (1766); *Gm. Syst. Nat.* i. p. 449 (1788); *Gray, Gen. B.* i. p. 81 (1847); *Bp. Consp.* i. p. 159 (1850); *Gray, Hand-l. B.* i. p. 96, no. 1172 (1869).

Le Martin pêcheur roux, *Daubent. Pl. Enl.* pl. 778. fig. 1; *Buff. Hist. Nat. Ois.* vii. p. 199 (1780).

Rufous Kingfisher, *Lath. Gen. Syn.* i. pt. 2, p. 630 (1782).

Dacelo rufulus, *Lafr. Rev. Zool.* 1838, p. 224.

Ispidina madagascariensis, *Cass. Cat. Halc. Philad. Mus.* p. 13 (1852); *Bp. Consp. Volucr. Anis.* p. 9 (1854); *Hartl. J. f. O.* 1860, p. 86;

id. Faun. Madag. p. 30 (1861); *Roch & Newt. Ibis*, 1862, p. 271; *Sharpe, Monogr. Alced.* p. 137, pl. 49 (1869); *id. P. Z. S.* 1870, p. 398; *id. P. Z. S.* 1872, p. 868; *Hartl. Vög. Madag.* p. 80 (1877); *Milne-Edwards & Grand. Hist. Nat. Madag., Ois.* p. 2 pls. lxxix., lxxix. A, xcxi., cxvii. A. (1878).

Dacelo madagascariensis, *Schl. P. Z. S.* 1866, p. 421; *Grandid. Rev. et Mag. de Zool.* 1867, p. 354; *Schl. & Poll. Faun. Madag., Ois.* p. 59 (1868).

Adult. Upper surface of the body rufous, with here and there a slight lilac lustre; wing-feathers blackish, the inner web light rufous from the base, the outer web edged with rufous, more especially on the secondaries, which are almost entirely of the latter colour; throat, a longitudinal patch of feathers along the sides of the neck extending backwards, the middle of the abdomen, and under tail-coverts white; cheeks and sides of the body rufous; under wing-coverts pale rufous: bill and feet coral-red. Total length 5 inches, of bill from front 1, from gape 1·4, wing 2·3, tail 1, tarsus 0·25, middle toe 0·45, hind toe 0·2.

Hab. Madagascar.

a, b. Ad. sk.	Madagascar.	A. Crossley [C.].
c. Ad. sk.	N. Madagascar (*Crossley*).	Salvin-Godman Coll.
d. Ad. sk.	Saralalan (*Crossley*).	Shelley Coll.
e. Ad. sk.	Madagascar (*J. Plant*).	Tweeddale Coll.
f. Ad. sk.	Madagascar.	Seebohm Coll.

9. MYIOCEYX.

	Type.
Myioceyx, *Sharpe, Monogr. Alced.* Intr. pp. xi, xiii (1871)	M. ruficeps.

Range. West Africa from the Gold Coast to Gaboon.

Key to the Species.

a. Head red, with black on the forehead..... *ruficeps*, p. 195.
b. Head black, banded with blue ..... *lecontii*, p. 196.

1. Myioceyx ruficeps.

Ispidina ruficeps, *Hartl. Orn. W.-Afr.* p. 262 (1857); *Sharpe, Monogr. Alced.* p. 147, pl. 53 (1869).
Alcedo lecontei (*nec Cass.*), *Schl. Mus. Pays-Bas*, p. 16 (1863).
Alcedo ruficeps, *Gray, Hand-l. B.* i. p. 96, no. 1173 (1869).
Myioceyx ruficeps, *Sharpe, Monogr. Alced.* Intr. p. xiii (1871).

Adult. Above brilliant ultramarine; wing-coverts black, washed with ultramarine at the ends; quills and tail black; crown of head and sides of face chestnut-orange, spotted with lilac, and washed with the latter colour on the sides of the face and hinder crown; a black spot on the base of the forehead; throat whitish; remainder of under surface of body orange-rufous, paler in the centre of the abdomen; under wing-coverts orange; quills dusky below, rufous

along the inner web. Total length 4 inches, culmen 1·15, wing 1·75, tail 07·5, tarsus 0·3.

Hab. Forests of the Interior of the Gold Coast.

a. Ad. sk. Fantee. Sharpe Coll.

2. Myioceyx lecontii.

Ispidina lecontei, *Cass. Proc. Philad. Acad.* 1856, p. 158; *Hartl. Orn. W.-Afr.* p. 35 (1857); *DuChaillu, Equat. Afr.* p. 472 (1861); *Sharpe, Ibis*, 1869, p. 283; *id. Monogr. Alced.* p. 149, pl. 54 (1871).
Alcedo lecontei, *Gray, Hand-l. B.* i. p. 96, no. 1174 (1869).
Myioceyx lecontei, *Sharpe, Monogr. Alced.* Intr. p. xiii (1871).

Adult male. Front black (without spots); crown and occiput bluish black, with small spots of light blue, with a purple tinge; a narrow partially concealed collar of rufous on the neck behind; wing-coverts black, with small purplish-blue spots; quills bluish black, edged with rufous on their inner webs; tail bluish black; a small spot in front of the eye, cheeks, breast, and abdomen yellowish rufous, darker on the breast; throat white; under wing-coverts rufous: upper mandible bluish black, the point white, the under mandible at the base yellow, then dark brown towards the point, but at the tip white; legs yellow. Total length 3·75 inches, wing 1·8, tail 0·9, bill in front 1. (*Cassin.*)

Hab. Gaboon.

10. SYMA.

	Type.
Syma, *Less. Voy. Coquille*, i. pt. 2, p. 688 (1828)	S. torotoro.

Range. Confined to the Papuan Islands, and the Cape York Peninsula of Australia.

Key to the Species.

a. Bill yellow, with a black mark near the end of the culmen ..... *torotoro*, p. 196.
b. Bill yellow, without any black mark on the culmen..... *flavirostris*, p. 197.

1. Syma torotoro.

Syma torotoro, *Less. Voy. Coquille, Zool. Atlas*, pl. 31 (1826); *id. in Féruss. Bull. Sci. Nat.* xi. p. 443 (1827); *id. Voy. Coquille*, i. pt. 2, p. 689 (1828); *id. Traité*, p. 244 (1831); *id. Compl. Buff., Ois.* p. 653 (1838); *Bp. Consp.* i. p. 153 (1860); *Reichenb. Handb., Alced.* p. 43, Taf. 430. fig. 3173 (1851); *Bp. Consp. Volucr. Anis.* p. 9 (1854); *Wall. Ann. & Mag. Nat. Hist.* (2) xx. p. 477 (1857); *Gray, P. Z. S.* 1858, pp. 172, 190; *id. Cat. Mamm. & B. New Guinea*, p. 55 (1859); *id. P. Z. S.* 1861, p. 433; *Rosenb. Nat. Tijdschr. Nederl. Ind.* xxv. p. 230 (1863); *id. J. f. O.* 1864, p. 118; *Sharpe, Monogr. Alced.* p. 151, pl. 55 (1869); *Scl. P. Z. S.* 1873, p. 697; *Salvad. Ann. Mus. Genov.* vii. p. 765 (1875), viii. p. 397 (1876), ix. p. 29 (1876), x. pp. 127, 304 (1877); *Sharpe, Journ.*

Linn. Soc. xiii. p. 492 (1878); *Ramsay, Proc. Linn. Soc. N. S. W.* i. p. 390 (1876), iii. p. 260 (1878), iv. p. 97 (1879); *D'Albertis & Salvad. Ann. Mus. Genov.* xiv. p. 52 (1879); *Sharpe, Journ. Linn. Soc., Zool.* xiv. p. 686 (1879); *Salvad. Orn. Papuasia etc.* i. p. 482 (1880); *Sharpe, op. cit.* xvi. p. 429 (1884: Taburi &c.); *Meyer, Zeitschr.* i. p. 276 (1884: Aru Isl.); *Finsch, Vög. der Südsee*, pp. 25, 32 (1884: Laloki River); *Guillem. P. Z. S.* 1885, p. 627 (Waigiou, Salawati); *Nehrk. J. f. O.* 1885, p. 32 (Waigiou); *Tristr. Ibis*, 1889, p. 557 (Ferguson Isl.); *Salvad. Agg. Orn. Papuasia*, i. p. 59 (1889).

Syma lessonia, *Swains. Classif. B.* ii. p. 335 (1837).

Dacelo syma, *S. Müll. Verh. Land- en Volkenk.* pp. 22, 176 (1839–44).

Halcyon torotoro, *Gray, Gen. B.* i. p. 79 (1846); *Scl. Proc. Linn. Soc.* ii. p. 156 (1858); *Gray, Cat. Mamm. & B. New Guinea*, p. 20 (1859); *Rosenb. Reis naar Zuidoostereil.* p. 380 (1867).

Todirhamphus torotoro, *Cass. Cat. Halc. Phil. Mus.* p. 12 (1852, pt.); *id. U.S. Expl. Exped.* p. 222 (1858).

Dacelo torotoro, *Schl. Mus. Pays-Bas*, Alced. p. 23 (1863); *id. Vog. Nederl. Ind.* pp. 19, 52, pl. vi. figs. 3, 4 (1864); *Finsch, Neu-Guinea*, p. 160 (1865); *Schl. Mus. Pays-Bas*, Alced. *Revue*, p. 15 (1874); *Rosenb. Reist. naar Geelvinkb.* p. 83 (1875).

Adult male. General colour above dull green, inclining to blackish on the mantle and lesser wing-coverts; remainder of wing-coverts brighter green than the back and inclining to grass-green; quills blackish, externally bluish green, excepting the first primary, which is edged with sandy buff; lower back, rump, and upper tail-coverts dull greenish blue; tail-feathers dark blue; head and hind neck, as well as under surface of body, bright cinnamon-rufous, the throat and abdomen rather paler; anterior edge of eyelid black; on the hind neck a twin spot of black forming a half-collar: "bill yellow, with the culmen black; feet orange; iris blackish" (*D'Albertis*). Total length 7·5 inches, culmen 1·55, wing 2·9, tail 2·4, tarsus 0·55.

Adult female. Similar to the male, but having a large patch of black on the centre of the crown, in addition to the interrupted black collar on the hind neck. Total length 7·5 inches, culmen 1·5, wing 3·05, tail 2·4, tarsus 0·55.

Hab. New Guinea, Aru Islands, Mysol, Waigiou.

a, b. ♀ ad. sk.	Waigiou.	Wallace Coll.
c. ♀ ad. sk.	Mysol (*von Rosenberg*: *Sharpe Coll.*).	Tweeddale Coll.
d. ♂ ad. sk.	Aru Islands.	Wallace Coll.
e. ♂ ad. sk.	Dorey (*A. R. Wallace*).	Tweeddale Coll.
f, g. ♂ ad. sk.	New Guinea (*A. R. Wallace*).	Gould Coll.
h. ♂ ad. sk.	New Guinea (*Sharpe Coll.*).	Tweeddale Coll.

2. Syma flavirostris.

Halcyon (Syma?) flavirostris, *Gould, P. Z. S.* 1850, p. 200; *id. Contr. Orn.* 1850, p. 105.

Halcyon flavirostris, *Gould, B. Austr., Suppl.* pl. 7 (1851); *Gray, Hand-l. B.* i. p. 94, no. 1141 (1869).

Syma flavirostris, *Reichenb. Handb., Alced.* p. 44, Taf. 430. figs. 3171–72 (1851); *Gould, Handb. B. Austr.* i. p. 135 (1865); *Sharpe,*

Monogr. Alced. p. 153, pl. 56 (1869); *Masters, Proc. Linn. Soc. N. S. W.* i. p. 47 (1876); *Ramsay, op. cit.* ii. p. 179 (1878).
Halcyon torotoro (*nec Less.*), *Macgill. Voy. Rattlesn.* ii. p. 956 (1852).
Syma torotoro (pt.), *Salvad. Orn. Papuasia*, i. p. 482 (1880).

Adult male. Differs from *S. torotoro* in wanting the black mark along the tip of the culmen, in being lighter above; the back and scapulars greenish brown or olive-brown. Total length 7 inches, culmen 1·5, wing 3·05, tail 2·3, tarsus 0·55.

Adult female. Differs from the male as in *S. torotoro*. Total length 6·7 inches, culmen 1·4, wing 3·9, tail 2·2, tarsus 0·5.

Hab. Cape York Peninsula.

a, b. ♂ ♀ ad. st.	Cape York.	J. Macgillivray, Esq. [P.].
c. ♂ ad.; *d–f.* ♀ ad. sk.	Cape York (*J. T. Cockerell*).	Salvin-Godman Coll.
g. ♂ ad.; *h, i, k.* ♀ ad. sk.	Cape York.	Gould Coll.
l, m. ♂ ♀ ad. sk.	Cape York (*Sharpe Coll.*).	Tweeddale Coll.
n, o. ♂ ♀ ad. sk.	Port Albany (*C. Coxen*).	Tweeddale Coll.

11. CARCINEUTES.

Type.
Lacedo, *Reichenb. Handb., Alced.* p. 41 (1851)..... C. pulchellus.
Carcineutes, *Cab. & Heine, Mus. Hein.* Th. ii. p. 163 (1860) ..... C. pulchellus.

Range. From Siam and the Burmese countries south through the Malayan Peninsula to Java, Sumatra, and Borneo.

Key to the Species.

a. Sides of face and forehead chestnut ..... *pulchellus*, p. 198.
b. Sides of face and forehead black ..... *melanops*, p. 200.

1. Carcineutes pulchellus.

Dacelo pulchella, *Horsf. Trans. Linn. Soc.* xiii. p. 175 (1821); *Temm. Pl. Col.* iv. p. 277 (1836); *Horsf. Zool. Research.* pl. 23 (1824); *Blyth, Cat. B. Mus. As. Soc.* p. 46 (1849); *Moore, P. Z. S.* 1854, p. 268; *Horsf. & Moore, Cat. B. Mus. E.I. Co.* i. p. 122 (1854); *Schl. Mus. P.-B.* Alced. p. 21 (1863); *id. Vog. Nederl. Ind.* pp. 15, 50, pl. 5. figs. 1, 2 (1864); *Stoliczka, J. A. S. Beng.* xxxix. p. 297 (1870); *Schl. Mus. P.-B.* Alced. *Revue*, p. 13 (1874).
Halcyon pulchella, *Gray, Gen. B.* i. p. 79 (1846); *id. List Fissir. Brit. Mus.* p. 52 (1848); *Bp. Consp.* i. p. 154 (1850); *Cass. Cat. Halcyon. Philad. Mus.* p. 7 (1852); *Pelz. Reis. Novara, Vög.* p. 44 (1865); *Gray, Hand-l. B.* i. p. 94, no. 1137 (1869).
Lacedo pulchella, *Reichenb. Handb., Alced.* p. 42, Taf. 420. figs. 3168–69 (1851).
Carcineutes pulchellus, *Cab. & Heine, Mus. Hein.* Th. ii. p. 163 (1860); *Sharpe, Monogr. Alced.* p. 251, pl. 96 (1868); *Hume, Str. F.* ii. p. 470 (1874: Tenasserim); *Tweedd. Ibis*, 1877, p. 295 (Lampong); *Wardlaw Ramsay, Ibis*, 1877, p. 456 (Burma); *Hume & Davison,*

Str. F. vi. pp. 79, 499 (1878: Tenasserim); *Hume, Str. F.* viii. pp. 49 (Malacca), 86 (1879); *Bingham, t. c.* p. 193 (Thoungyeen Valley); *Gould, B. Asia*, i. pl. 48 (1880); *Kelham, Ibis*, 1881, p. 381 (Perak); *Müll. J. f. O.* 1882, p. 399 (Salanga); *Oates, Handb. B. Brit. Burm.* ii. p. 86 (1883); *Nichols. Ibis*, 1883, p. 243.

Carcineutes amabilis, *Hume, Str. F.* i. p. 474 (1873: Pegu Hills); *Sharpe, op. cit.* p. 484; *Hume, t. c.* p. 485; *Hume, Str. F.* iii. p. 51 (1875); *Gould, B. Asia*, i. pl. 50 (1880).

Adult male. Above regularly banded with black and blue, and also with white, the latter concealed to a great extent, the blue bars terminal; wing-coverts like the back and similarly banded; the greater coverts black, externally spotted with white; bastard-wing, primary-coverts, and quills black, externally spotted with white, the spots larger on the secondaries, the inner ones barred across with white; tail-feathers banded with black and blue, with concealed white bars on the inner web, corresponding to the external blue bars on the outer web; forehead chestnut, forming a broad frontal band; remainder of crown deep cobalt-blue, with a subterminal black bar, the bases silvery white, producing a slightly mottled appearance; sides of face, ear-coverts, and cheeks deep chestnut, extending backwards to the sides of the neck and forming a broad collar round the hind neck; throat white; fore neck, breast, and sides of the body deep ochreous buff; abdomen and under tail-coverts white; under wing-coverts pale ochreous buff; quills dusky below, ochreous along the inner web: "bill vermilion-red, the base of the lower mandible brownish red; gape generally yellowish white; legs and feet dull pale green; claws black; iris purplish grey" (*W. Davison*). Total length 8 inches, culmen 1·5, wing 3·3, tail 2·7, tarsus 0·5.

Adult female. General colour above ochreous buff, banded with black; the head blacker, more narrowly barred with ochreous than the back, wings, and tail, which are like the back; quills black, externally notched with ochraceous buff; sides of the face, cheeks, and ear-coverts black, barred with ochraceous buff; throat and under surface of body white, with a few scattered black spots on the chest, larger and inclining to bars on the sides of the body; under wing-coverts and axillaries white. Total length 8 inches, culmen 1·5, wing 3·45, tail 3·1, tarsus 0 5.

Hab. From the hills of Siam and the Burmese Provinces south through Tenasserim and the Malay Peninsula to Sumatra and Java.

a, b. ♂ ad. sk.	Karen Hills, Oct. (*R.G. W.R.*).	Tweeddale Coll.
c, d. ♂ ♀ ad. sk.	Eastern Pegu Hills, April (*E. W. Oates*).	Hume Coll. (Types of *C. amabilis.*)
e, f. ♂ ad.; *g, h.* ♀ ad. sk.	Thoungyeen Valley, Tenasserim, Jan., Feb., March (*C.T. Bingham*).	Hume Coll.
i, k. ♀ ad. sk.	Near Mooleyit, Jan. (*W. Limborg*).	Tweeddale Coll.
l. ♂ ad. sk.	Meetan, Feb. 28 (*W. Davison*).	Hume Coll.
m, n. ♂ ad. et juv.; *o, p, q.* ♀ ad. et juv. sk.	Amherst, Dec., Jan., June, July (*W. Davison*).	Hume Coll.
r, s. ♂ ♀ ad. sk.	Tavoy, April (*J. Darling*).	Hume Coll.

t. ♂ ad. sk.	Mergui Islands, Dec. (*W. Davison*).	Hume Coll.
u. ♂ ad. sk.	Palaw-ton-ton, Dec. (*W. Davison*).	Hume Coll.
v–*y*. ♂ ad. et juv.; *z*. ♀ ad. sk.	Bankasoon, Feb., April, June (*W. Davison*).	Hume Coll.
a'. ♀ ad. sk.	Malewoon, Dec. (*W. Davison*).	Hume Coll.
b', *c'*. ♂ ad. sk.	Siam.	Gould Coll.
d'. ♂ ad. sk.	Kossoom, May (*J. Darling*).	Hume Coll.
e'. ♂ ad. sk.	Perak Mountains.	L. Wray, Esq. [P.].
f'. ♂ ad. sk.	Klang, Feb. (*W. Davison*).	Hume Coll.
g'–*r'*. ♂ ad. et imm.; *s'*–*z'*. ♀ ad. et juv. sk.	Malacca, July, Aug. (*W. Davison.*)	Hume Coll.
a'', *b''*. ♂ ♀ ad. sk.	Malacca (*A. R. Wallace*).	Gould Coll.
c''. ♂ ad.; *d''*–*g''*. ♀ ad. et juv. sk.	Malacca (*R. G. W. R.*).	Tweeddale Coll.
h'', *i''*. ♂ ad.; *k''*–*m''*. ♀ ad. et imm. sk.	Malacca, April (*Dr. Cantor*).	India Museum.
n'', *o''*. Imm. sk.	Malacca.	Purchased.
p''. ♂ ad. sk.	Kuroo, Nov. (*W. Davison*).	Hume Coll.
q''. ♂ ad.; *r''*. ♀ imm. sk.	Johore, March (*W. Davison*).	Hume Coll.
s'', *t''*. ♂ ad.; *u''*, *v''*. ♀ ad. sk.	Singapore.	Hume Coll.
w''. ♂ ad. sk.	Sumatra.	Gould Coll.
x''–*z''*. ♂ ad.; a^3. ♀ ad. sk.	Sumatra, Oct. (*Carl Bock*).	Tweeddale Coll.
b^3–d^3. ♂ ad. et imm. sk.	Lampong, S.E. Sumatra (*E. C. Buxton*).	Tweeddale Coll.
e^3. ♂ ad. sk.	Java.	Gould Coll.
f^3, g^3. ♂ ♀ ad. sk.	Java (*Sharpe Coll.*).	Tweeddale Coll.
h^3. ♂ juv. sk.	Java.	Purchased.
i^3. ♂ ad. sk.	E. Java.	Wallace Coll.

2. Carcineutes melanops.

Halcyon melanops, *Bp. Consp.* i. p. 154 (1850, *ex Temm. MS. in Mus. Lugd.*); *Cass. Cat. Halcyon. Philad. Mus.* p. 7 (1852); *Gray, Hand-l. B.* i. p. 94, no. 1138 (1869).

Lacedo melanops, *Reichenb. Handb., Alced.* p. 42 (1851); *Salvad. Ucc. Born.* p. 104 (1874); *Vorderm. Nat. Tijdschr. Nederl. Ind.* xlvi. p. 11 (1886).

Carcineutes melanops, *Cab. & Heine, Mus. Hein.* Th. ii. p. 163, note (1860); *Sharpe, Monogr. Alced.* p. 253, pl. 97 (1868); *id. Ibis*, 1879, p. 249 (Lumbidan, Brunei, Lawas River); *Gould, B. Asia*, i. pl. 49 (1880); *Sharpe, P. Z. S.* 1881, p. 793 (Sandakan); *Nichols. Ibis*, 1883, p. 87 (Segilind River); *Sharpe, Ibis*, 1890, pp. 21, 283, 288.

Dacelo melanops, *Schl. Mus. Pays-Bas*, Alced. p. 21 (1863); *id. Vog. Nederl. Ind.* pp. 16, 51, pl. 5. figs. 3, 4 (1864); *id. Revue*, p. 13 (1874).

Adult male. Similar to *C. pulchellus*, but distinguished by having the forehead, sides of face, and collar round the hind neck black instead of rufous: "bill coral-red; feet dull yellow; iris stone-grey" (*J. Whitehead*). Total length 8 inches, culmen 1·55, wing 3·25, tail 2·55, tarsus 0·55.

Adult female. Similar to the female of *C. pulchellus*. Total length 7·4 inches, culmen 1·55, wing 3·5, tail 2·7, tarsus 0·5.

As with *C. pulchellus*, it seems that the black collar round the hind neck sometimes becomes obliterated, and the blue is continuous from the crown to the mantle. In many birds the black on the forehead and sides of face is mixed with rufous.

Hab. Borneo.

a. ♂ ad. sk.	Borneo.	Gould Coll.
b. ♂ ad. sk.	Labuan.	Sir Hugh Low [P.].
c. ♂ ad. sk.	Labuan (*De Crespigny*: *Sharpe Coll.*).	Tweeddale Coll.
d. ♂ ad. sk.	Brunei River, N.W. Borneo.	GovernorUssher[C.].
e. ♂ ad.; *f*, *g.* ♀ ad. sk.	Lumbidan.	GovernorUssher[C.].
h, *i.* ♂ ♀ ad. sk.	Lawas River.	H. Veitch, Esq. [P.].

12. MELIDORA.

Melidora, *Less. Traité*, p. 249 (1831) ..... Type. M. macrorhina.

Range. Confined to New Guinea.

1. Melidora macrorhina.

Dacelo macrorhinus, *Less. Voy. Coquille, Zoologie, Atlas*, pl. 31 bis. fig. 2 (1826); *id. Féruss. Bull. Sci. Nat.* xii. p. 131 (1827); *id. Voy. Coquille, Zool.* i. p. 692 (1828); *id. Man. d'Orn.* ii. p. 94 (1828); *Gray, Cat. B. New Guinea*, p. 19 (1859); *id. P. Z. S.* 1859, p. 154.

Melidora eufrosiæ, *Less. Traité d'Orn.* p. 259 (1831); *id. Compl. Œuvres de Buffon, Oiseaux*, p. 653 (1838); *Bp. Consp.* i. p. 150 (1850); *Finsch, Neu-Guinea*, p. 160 (1865).

Dacelo macrorhynchus, *Less. Traite d'Orn.* p. 249 (1831); *Gray, Gen. B.* i. p. 78 (1846); *id. P. Z. S.* 1858, p. 189; *id. Cat. Mamm. & B. New Guinea*, p. 54 (1859); *id. P. Z. S.* 1861, p. 433.

Melidora macrorhyncha, *Gray, List Gen. B.* i. p. 10 (1840); *id. List Gen. B.* p. 14 (1841); *id. Hand-l. B.* i. p. 89, no. 1067 (1869); *Ramsay, Proc. Linn. Soc. N. S. Wales*, iii. p. 262 (1878), iv. p. 97 (1879).

Melidora macrorhina, *Reichenb. Handb., Alced.* p. 41, sp. 99, Taf. 428. figs. 3166–7 (1851); *Sclater, Journ. Linn. Soc.* ii. p. 156 (1858); *Sharpe, Mon. Alced.* p. 303, pl. 120 (1869); *Beccari, Ann. Mus. Civ. Genov.* vii. p. 708 (1875); *Salvad. t. c.* p. 766, viii. p. 398 (1876); *Cab. & Reichen. J. f. Orn.* 1876, p. 323; *Salvad. Ann. Mus. Civ. Genov.* x. pp. 128, 303 (1877), xii. p. 319 (1878); *id. Orn. Papuasia etc.* i. p. 500 (1881); *Sharpe, Journ. Linn. Soc.* xvi. p. 429 (1882); *Nehrk. J. f. O.* 1885, p. 32 (Waigiou); *Guillem. P. Z. S.* 1885, p. 628; *Salvad. Agg. Orn. Papuasia*, i. p. 60 (1889); *Meyer, Ibis*, 1890, p. 415.

Melidora euphrosinæ, *Reichenb. l. c.*; *Rosenb. Nat. Tijdschr. Nederl. Ind.* xxv. p. 230 (1863); *id. J. f. O.* 1861, p. 117.
Melidora euphrasiæ, *Bp. Consp. Vol. Anisod.* p. 9 (1854).
Dacelo macrorhina, *Schl. Mus. P.-B.* Alced. p. 22 (1863); *id. Vog. Nederl. Ind.* Alced. pp. 17, 51, pl. 4. fig. 1 (1864); *id. Mus. P.-B.* Alced. *Revue*, p. 13 (1874).
Melidora goldiei, *Ramsay, Proc. Linn. Soc. N. S. Wales*, i. p. 389 (1876).
Melidora collaris, *Sharpe, Journ. Linn. Soc.* xiii. p. 313 (1877).

Adult male. General colour above blackish, mottled with greenish-ochre bands at the end of the feathers of the back, scapulars, and wing-coverts, all of which have a yellowish centre to the terminal band; feathers of the rump and upper tail-coverts also tipped with a band of ochre, on which a greenish shade predominates; bastard-wing, primary-coverts, and quills blackish, the secondaries externally olive, the innermost ones tipped with an ochreous band; tail-feathers dusky brown, edged with olive-greenish and tipped with ochreous buff, which extends along the edge of the outer web; crown of head black, the feathers edged with blue, with a brighter blue streak in the centre of the blue band; round the hind neck a band of black, succeeded by a second band of white above the mantle; lores black, surmounted by a streak of white, which extends as a narrow eyebrow above the ear-coverts; this white eyebrow tinged with blue; ear-coverts black, joined to the black band round the hind neck; across the lower line of the ear-coverts a band of white washed with ochre, and continued below the eye to some infra-loral bristly white feathers; cheeks entirely black, forming a broad band; throat and entire under surface of body white, the sides blackish; under wing-coverts and axillaries white, the primary-coverts white with some dusky bands; quills dusky below, light ochreous along the inner web: "bill black, lower mandible whitish; feet ashy grey; iris black" (*D'Albertis*). Total length 9·5 inches, culmen 1·85, wing 4·9, tail 3·5, tarsus 0·7.

Adult female. Similar to the male, but differing in the colour of the head, which is blackish, all the feathers minutely tipped with green, and the hind head surrounded by a broad band of bright blue feathers, which extends from above the eye round the nape; the throat and under wing-coverts are ochre-rufous: "feet greenish; iris chestnut" (*D'Albertis*). Total length 10 inches, culmen 1·8, wing 4·6, tail 3·4, tarsus 0·7.

Young female. Similar to the adult, but having the tips to all the feathers of the upper surface rufous-ochre, and the collar round the hind neck as well as the under surface of the body also rufous-ochre, with dusky fringes to all the feathers; a broad moustachial band and the centre of the abdomen white.

Hab. New Guinea and Salawati, Waigiou and Mysol.

a. Ad. sk.	New Guinea.	Tweeddale Coll.
b. ♀ ad.; *c*. ♀ juv. sk.	Dorey.	Wallace Coll.

d–f. Ad. et imm. sk.	Mainland of S.E. New Guinea, Feb.	Dr. James [C.]. (Types of *M. collaris*.)
g. Ad. sk.	Low Aleya, S.E. New Guinea,	Tweeddale Coll.
h–m. Ad. et imm. sk.	Interior of S.E. New Guinea.	A. Goldie [C.].

2. Melidora jobiensis.

Melidora jobiensis, *Salvad. Orn. Pap.* i. p. 502 (1880).

Similar to *M. macrorhina*, but having the head black, without any olive-ochreous margins.

Hab. Island of Jobi.

13. CLYTOCEYX.

	Type.
Clytoceyx, *Sharpe, Ann. & Mag. Nat. Hist.* (5) vi. p. 231 (1880)	C. rex.

Range. Confined to South-eastern New Guinea.

1. Clytoceyx rex.

Clytoceyx rex, *Sharpe, Ann. & Mag. Nat. Hist.* (5) vi. p. 231 (1880); *Meyer, J. f. O.* 1880, p. 313, note; *Gould, B. N. Guin.* iv. pl. 9 (1881); *Sharpe, Journ. Linn. Soc., Zool.* xvi. p. 429 (1882); *Salvad. Ann. Mus. Civ. Genov.* xviii. p. 421 (1882); *id. Orn. Papuasia e delle Molucche*, iii. App. p. 526 (1882); *Finsch & Meyer, Zeitschr. ges. Orn.* iii. p. 14 (1886); *Salvad. Agg. Orn. Papuasia e delle Molucche*, i. p. 60 (1889).

Adult male. Head brown; feathers surrounding the eye and sides of the face brown; ear-coverts black, extending backwards on to the sides of the neck and forming a broad band; a stripe above the eye, the lower cheeks, and a broad band on the neck ochraceous buff; interscapulary region black; scapulars and wing-coverts brown, the latter margined with ochraceous, the outermost of the least series washed with greenish blue; primary-coverts and quills dark brown, externally washed with dull green; lower back and rump silvery cobalt; upper tail-coverts and tail dark brown washed with green; throat white; rest of the body underneath with the under wing-coverts ochraceous buff; quills dusky below, with the inner web margined with pale ochraceous. Total length 12 inches, culmen 1·95, wing 6·35, tail 4·7, tarsus 0·9.

Adult female. Similar to the male, but having a rufous instead of a blue tail; wing-coverts also washed with blue. Total length 12 inches, culmen 1·9, wing 6·7, tail 4·8, tarsus 0·9.

Young male. Duller in colour than the adults, the head lighter brown, and the ochreous collar round the hind neck much paler than in the adult; under surface of body ochreous buff, the feathers of the fore neck, chest, and sides of body fringed with dusky blackish edges; wings externally washed with greenish; tail-feathers also dull greenish blue.

Young female. Has the rufous tail of the old female, but has the

buff collar round the hind neck barred with dusky blackish fringes to the feathers.

Hab. Mountains of South-eastern New Guinea.

a, *b*. ♂ ad., ♀ imm. sk.	East Cape.	K. Hunstein [C.]. (Types of species.)
c. Ad. sk.	Astrolabe Mts. (*A. Goldie*).	Tweeddale Coll.
d, *e*. ♀ ad. sk.	Astrolabe Mts.	H. H. Romilly, Esq. [P.].
f, *g*. ♂ ad. et juv. sk.	Sogere district, Astrolabe Mts., Oct.	H. O. Forbes, Esq. [C.].

14. DACELO.

	Type.
Dacelo, *Leach, Zool. Misc.* ii. p. 125 (1815)	D. gigas.
Paralcyon, *Gloger, in Froriep's Notizen*, p. 278 (1827)....	D. gigas.
Choucalcyon, *Less. Traité d'Orn.* p. 248 (1831)	D. gigas.
Nycticeyx, *Gloger, Handb. Naturg.* p. 338 (1842)	D. gigas.

Range. Australia and Southern New Guinea.

Key to the Species.

a. Sexes alike in colour as regards the tail; crown rufous-brown in the centre, white on the sides of the crown; a band of brown on the nape . *gigas*, p. 204.

b. Sexes different—the male having a blue tail, the female a red one; head distinctly striped. *leachi* and allies, [pp. 206–209.

1. Dacelo gigas.

Grand Martin-pêcheur de la Nouvelle Guinée, *Sonn. Voy. Nouv. Guin.* i. p. 171, Taf. 106 (1766).

Martin-Pêcheur de la Nouvelle Guinée, *Daubent, Pl. Enl.* viii. pl. 663.

Le plus grand Martin-pêcheur, *Buff. Hist. Nat. Ois.* vii. p. 181 (1780).

Great Brown Kingfisher, *Lath. Gen. Syn.* i. pt. 2, p. 609 (1782); *White, Voy. N. S. Wales*, p. 137, pl. 2 (1790).

Alcedo gigas, *Bodd. Tabl. Pl. Enl.* p. 40 (1783).

Alcedo undulata, *Scop. Del. Flor. et Faun. Insubr.* ii. p. 90 (1786).

Alcedo fusca (*nec Bodd.*), *Gm. Syst. Nat.* i. p. 454 (1788).

Alcedo gigantea, *Lath. Ind. Orn.* i. p. 245 (1790); *Shaw, Gen. Zool.* viii. p. 53 (1811); *Bonn. et Vieill. Enc. Méth.* i. p. 282 (1823).

Dacelo gigantea, *Leach, Zool. Misc.* ii. p. 125, pl. cvi. (1815); *Vig. & Horsf. Tr. Linn. Soc.* xv. p. 204 (1827); *Gould, B. Austr.* ii. pl. 18 (1844); *Reichenb. Vög. Neuholl.* p. 36 (1850); *Bp. Consp.* i. p. 153 (1850); *Diggles, Orn. Austr.* pl. 23 (1870).

Choucalcyon australe, *Less. Traité*, p. 248 (1831).

Dacelo gigas, *Gray, Gen. B.* i. p. 78 (1846); *id. List Fissir. Brit. Mus.* p. 51 (1848); *Reichenb. Handb., Alced.* p. 40, Taf. 427. figs. 3161–63 (1851); *Cass. Cat. Halc. Philad. Mus.* p. 14 (1852); *Gray, P. Z. S.* 1858, p. 189; *id. Cat. Mamm. & B. New Guin.* pp. 19, 44 (1859); *Schl. Mus. Pays-Bas*, Alced. p. 19 (1863); *Gould, Handb. B. Austr.* i. p. 122 (1865); *Gray, Hand-l. B.* i.

p. 89, no. 1060 (1869); *Sharpe, Monogr. Alced.* p. 285, pl. 112 (1870); *Schl. Mus. Pays-Bas, Alced. Revue*, p. 11 (1874); *Ramsay, Proc. Linn. Soc. N. S. W.* ii. p. 179 (1879); *North, op. cit.* (2) iii. p. 1774 (1888); *Ramsay, Tab. List Austr. B.* p. 3 (1888); *Cox & Hamilton, op. cit.* (2) iv. p. 401 (1889); *North, Cat. Nests & Eggs Austr. B.* p. 36, pl. (1889).

Paralcyon gigas, *Cab. & Heine, Mus. Hein.* Th. ii. p. 165 (1860).

Adult male. General colour above brown, the upper back white, crossed with bars of dusky brown; lower back and rump greenish blue, with dusky bases to the feathers; upper tail-coverts rufous, barred with black; tail-feathers rufous, barred across irregularly with black, all but the centre feathers white at the ends, this white increasing in extent towards the outer feathers, which are white for about the terminal third, with black bars; scapulars brown like the mantle, with a good deal of white at the bases; lesser wing-coverts also brown; median series brown, largely tipped with greenish or silvery white; greater series nearly uniform brown; bastard-wing, primary-coverts, and quills blackish, with a wash of dark green externally, the primaries white at the base, forming a large patch; crown of head brown, varied and freckled with rufous on the forehead, the long crest-feathers edged with white margins; a very broad whitish eyebrow, reaching from above the eye to the nape, and encircling the latter; sides of neck and hind neck white, forming a broad collar, which is separated from the nuchal band by a band of dark brown, which is continuous with the dark brown ear-coverts; lores blackish; cheeks and under surface of body dingy white, slightly freckled with dusky margins to the feathers, a little more distinct on the flanks and on the under wing- and tail-coverts. Total length 17 inches, culmen 2·5, wing 8·55, tail 6·3, tarsus 1.

Adult female. Similar to the male, but with more rufous on the crown and ear-coverts; the lower back, rump, and upper tail-coverts being rufous barred with black. Total length 17 inches, culmen 2·9, wing 8·7, tail 6·2, tarsus 0·95.

Young. Similar to the adult female, but freckled with brown on the white parts of the crown, neck, and under surface. The young males have at first no blue on the back and rump.

The differences between northern and southern birds suggested in my 'Monograph' do not hold good with a larger series of skins at my disposal. The brighter blue on the wing-coverts as well as on the lower back and rump appears to be a sign of age only, as it is more conspicuous in the older birds.

Hab. Australia.

a, *b*, *c*. Ad. sk.	Australia.	
d, *e*. Ad. sk.	Melbourne.	
f, *g*. Ad. sk.	New South Wales.	
h, *i*. Imm. sk.	S.E. coast of Australia.	Gould Coll.
k. Ad. sk.	Queensland (*J. Thorpe*).	Tweeddale Coll.
l. Imm. sk.	Port Curtis, Queensland, April.	Voy. of H.M.S. 'Alert.'
m, *n*. Ad. sk.	Brisbane.	Salvin-Godman Coll.
o. Ad. sk.	N.E. Australia.	Sir T. Mitchell [P.].

2. Dacelo leachii.

Dacelo leachii, *Vig. & Horsf. Trans. Linn. Soc.* xv. p. 205 (1827, *ex Lath. MSS.*); *Gray, Gen. B.* i. p. 78 (1846); *id. List Fissir. Brit. Mus.* p. 51 (1844); *Gould, B. Austr.* ii. pl. 19 (c. 1848); *Bp. Consp.* i. p. 154 (1850); *Reichenb. Vög. Neuholl.* p. 210 (1850); *id. Handb., Alced.* p. 41, Taf. 426. figs. 3159–60 (1851); *Macgill. Voy.* 'Rattlesnake,' ii. p. 356 (1852); *Gray, P. Z. S.* 1858, p. 189; *Schl. Mus. Pays-Bas*, Alced. p. 20 (1863); *Gould, Handb. B. Austr.* i. p. 124 (1865); *Ramsay, Ibis*, 1865, p. 84; *Gray, Hand-l. B.* i. p. 89, no. 1061 (1869); *Sharpe, Monogr. Alced.* p. 289, pl. 113 (1870); *Diggles, Orn. Austr.* pl. 24 (1870); *Schl. Mus. Pays-Bas, Alced. Revue*, p. 11 (1874); *Casteln. Proc. Linn. Soc. N. S. W.* i. p. 379 (1877 : Norman River); *Ramsay, op. cit.* ii. p. 179 (1878), vii. p. 45 (1883); *Sharpe, Voy. H.M.S.* 'Alert,' p. 23 (1884); *Ramsay, Tab. List Austr. B.* p. 3 (1888); *North, Cat. Nests & Eggs Austr. B.* p. 36 (1889).

Adult male. General colour above brown, the feathers lighter brown on their margins, the scapulars and lesser wing-coverts brown like the mantle; median wing-coverts dusky brown, edged with greenish blue, the inner ones almost entirely silvery blue, forming a large patch; greater series dark brown, with a slight greenish edging; bastard-wing, primary-coverts, and quills externally deep blue, blackish at the ends and on the inner web, the primaries with a large patch of white at the base: lower back, rump, and upper tail-coverts silvery blue; upper tail-coverts and tail-feathers deep blue, with black shaft-stripes and white tips, increasing in extent towards the outer ones, which have one or two white notches near the ends, the outermost feather being regularly barred with white up the inner web, and freckled with white on the outer one; crown of head white, streaked with brown centres to the feathers; the eyebrow similarly streaked to the crown, and also the sides of the face and ear-coverts; a broad white collar round the hind neck, cheeks, and under surface of the body dingy white, all thickly freckled with wavy cross lines of brown; under wing-coverts and axillaries white, with less numerous cross lines of blackish brown: "upper mandible brownish black; lower mandible pale buff; feet olive; iris dark brown" (*J. Gould*). Total length 17 inches, culmen 2·9, wing 8, tail 5, tarsus 0·95.

Adult female. Similar to the male in colour, excepting as regards the tail, which is cinnamon-rufous, barred with dark blue, and white at the ends.

Young males resemble the adult female, and have a red tail, but by the gradual absorption of the blue bars, which amalgamate without a moult, the tail becomes entirely blue.

Hab. Eastern Australia and Northern Australia from Cape York to Port Darwin and Port Essington.

a. [♂] ad. sk.	East Coast of Australia.	Linnean Society [P.]. (Type of species.)
b, *c*. ♂ imm. sk.	Queensland (*J. T. Cockerell*).	Salvin-Godman Coll.
d, *e*. ♂ ♀ ad. sk.	Queensland (*Sharpe Coll.*)	Tweeddale Coll.

f. Ad. sk.	Rockhampton, Queensland.	Gould Coll.
g. ♀ ad. sk.	Moreton Bay.	Gould Coll.
h. ♀ ad. sk.	Rockingham Bay, May 27 (*J. Macgillivray*).	Capt. Owen Stanley [P.].
i. ♂ imm. sk.	Gould Island, May.	J. B. Jukes, Esq. [P.].
k. ♀ ad. sk.	Possession Island, Endeavour Strait, July (*Dr. Coppinger*).	Voy. H.M.S. 'Alert.'

Subsp. α. Dacelo cervina.

Dacelo cervina, *Gould, B. Austr.* ii. pl. 20 (1844); *Gray, Gen. B.* i. p. 78 (1846); *id. List Fissir. Brit. Mus.* p. 51 (1848); *Bp. Consp.* i. p. 154 (1850); *Reichenb. Vög. Neuholl.* p. 38 (1850); *id. Handb., Alced.* p. 40, Taf. 328. figs. 3164–65 (1851); *Cass. Cat. Halc. Philad. Mus.* p. 16 (1852); *Gray, P. Z. S.* 1858, p. 189; *Schl. Mus. Pays-Bas,* Alced. p. 19 (1863); *Gould, Handb. B. Austr.* i. p. 125 (1865); *Gray, Hand-l. B.* i. p. 89, no. 1062 (1869); *Sharpe, Monogr. Alced.* p. 291, pl. 114 (1870); *Masters, Proc. Linn. Soc. N. S. W.* i. p. 47 (1887: Gulf of Carpentaria); *id. op. cit.* ii. p. 270 (1878: Port Darwin); *Ramsay, t. c.* p. 179 (1878); *id. op. cit.* (2) i. p. 1086 (1886), ii. p. 166 (1887: Derby); *id. Tab. List Austr. B.* p. 3 (1888); *North, Proc. Linn. Soc. N. S. W.* (2) iv. p. 1024 (1889: Raeburn).

Dacelo cervicalis, *Kaup, Fam. Eisv.* p. 8 (1848).

Dacelo salusii, *Jacq. et Pucher. Voy. Pôle Sud, Zool.* iii. p. 100, pl. 23 (1853).

Paralcyon cervina, *Cab. & Heine, Mus. Hein.* Th. ii. p. 164 (1860).

Dacelo occidentalis, *Gould, P. Z. S.* 1869, p. 602; *Sharpe, Monogr. Alced.* p. 293, pl. 115 (1870); *Ramsay, Pr. Linn. Soc. N. S. W.* iii. p. 179 (1878); *Sharpe, Voy. H.M.S. 'Alert,'* p. 23 (1884).

Adult male. Similar to *D. leachii*, but a little smaller, and with a similar blue tail, but slightly fulvescent below: "upper mandible blackish brown, the cutting-edges greenish white; lower mandible greenish white, the base dark brown on the sides, and blue on the under surface; tarsi and feet emerald-green; claws black; iris greenish white" (*J. Gould*). Total length 15 inches, culmen 2·95, wing 7·5, tail 4·75, tarsus 1.

Adult female. Differs from the male in having a cinnamon-coloured tail, barred with blue. Total length 15 inches, culmen 2·6, wing 7·3, tail 5·1, tarsus 1.

Nestling. General colour above dark brown, with scarcely perceptible lighter brown edges to the feathers of the mantle and scapulars; least wing-coverts brown like the back; median and greater series brown, tipped with pale verditer-blue or light greenish cobalt; bastard-wing brown, washed with blue; primary-coverts blackish, externally greenish blue; quills blackish, externally deep blue, greener on the primaries, which are white near the bases of both webs; the secondaries edged with white at the tips, the inner ones brown like the back; lower back and rump pale silvery cobalt; upper tail-coverts bright rufous, barred with black; tail-feathers bright rufous, paler at the ends, barred with dark blue, these blue bands margined above and below with black, the bands broader near the base and narrower towards the ends; the blue bands at

the base of the middle feathers already coalescing into one uniform blue base; head nearly uniform dark brown, the feathers broadly centred with blackish, the edges somewhat mottled with reddish-brown markings; the nape lighter, the crest-feathers being whiter, with narrow dark brown centres; hind neck clear fulvous, with more or less distinct zigzag cross lines of brown; lores tawny buff, as also the feathers below the eye, the latter with blackish shaft-streaks; ear-coverts dusky brown; cheeks clear fulvous, with central streaks of light brown breaking up into irrgular cross lines on some of the feathers; throat and fore neck white, with irregular zigzag cross lines of light brown; remainder of under surface of body clear fulvous, crossed with zigzag lines of brown; under tail-coverts uniform and deeper buff; axillaries like the breast, and barred across in the same manner; under wing-coverts whiter and crossed distinctly with blackish bars, broader and forming a distinct patch on the median lower coverts near the edge of the wing.

D. occidentalis of Gould seems to me to be inseparable from *D. cervina*, the under surface being, perhaps, rather paler and the cross bars more obsolete.

On all these races of Kingfisher, *cf.* Sharpe, Report Voy. H.M.S. 'Alert,' p. 24.

Hab. Northern Australia from Cape York to N.W. Australia.

a. ♀ ad. sk.	North Australia.	Linnean Society.
b, c. ♂ ad. sk.	Cape York.	Gould Coll.
d, e. ♂ ad.; *f.* ♀ ad. sk.	Cape York (*J. T. Cockerell*).	Salvin-Godman Coll.
g, h. ♀ ad. sk.	Cape York (*J. T. Cockerell*: *Sharpe Coll.*).	Tweeddale Coll.
i. Juv. sk.	Port Essington.	Earl of Derby [P.].
k. ♂ ad. sk.	Port Essington.	Dr. Sibbald [P.].
l, m. ♂ ad. et imm. sk.	Port Essington.	Capt. Chambers [P.].
n. Ad. st.	Port Essington.	Capt. Chambers [P.].
o. ♂ imm. sk.	Port Essington.	J. B. Jukes, Esq. [P.].
p, q. ♂ ad.; *r.* ♀ ad. sk.	N.W. Australia, April (*F. T. Gregory*).	Gould Coll.
s–v. ♂ ad. et imm.	Victoria River, Nov., Feb., March.	J. R. Elsey, Esq. [P.].
w. ♀ ad. sk.	Gilbert River, Oct.	J. R. Elsey, Esq. [P.].
x, y. ♂ ♀ ad sk.	Derby, N.W. Australia (*G. H. Bowyer Bower*).	Capt. Bowyer Bower [P.].

Subsp. β. **Dacelo intermedia.**

Dacelo leachii (*nec Lath.*), *D'Albert. P. Z. S.* 1875, p. 531; *Ramsay, Proc. Linn. Soc. N. S. W.* i. p. 389 (1877: Port Moresby); *id. op. cit.* iv. p. 97 (1879: S.E. New Guinea).

Dacelo intermedius, *Salvad. Ann. Mus. Genov.* ix. p. 21 (1877: Fly River), x. p. 307 (1877); *Sharpe, Journ. Linn. Soc., Zool.* xiii. pp. 312, 493 (1878), xiv. p. 686 (1879); *Salvad. Orn. Papuasia etc.* i. p. 497 (1880).

Dacelo leachii, var., *Ramsay, Proc. Linn. Soc. N. S. W.* iii. p. 261 (1879: Port Moresby); *Salvad. Ibis*, 1879, p. 322.

Adult male. General colour above very deep brown, darker than in *D. leachii* and *D. cervina*; the blue of the wings and tail much brighter; the head very broadly streaked with dark brown, the feathers being of this colour narrowly streaked with white; collar round the hind neck and under surface of body white, with only a little dusky freckling on the lower flanks. Total length 17·5 inches, culmen 3·1, wing 8, tail 5, tarsus 0·95.

Adult female. Differs from the male in having the tail rufous, barred with blue. Total length 17 inches, culmen 3·1, wing 8, tail 5, tarsus 1.

Hab. S.E. New Guinea.

a, b. Ad. et imm. sk.	Mainland of S.E. New Guinea, Jan. (*Dr. James*).	Gould Coll.
c. ♂ ad. sk.	Mainland of S.E. New Guinea, Dec. (*Dr. James*).	Tweeddale Coll.
d. Imm. sk.	Port Moresby, Nov. (*Dr. James*).	Tweeddale Coll.
e, f. ♂ ♀ ad. sk.	Port Moresby.	K. Broadbent [C.].
g. Ad. sk.	Port Moresby.	Gould Coll.

15. SAUROMARPTIS.

Type.

Sauromarptis, *Cab. & Heine, Mus. Hein.* Th. ii. p. 163 (1860) ..... S. gaudichaudi.

Range. New Guinea and Salawati; islands of Batanta, Waigiou, Guebeh, Miosnom, Jobi; Mysol, and the Aru group.

Key to the Species.

a. Scapulars black; head black ..... *gaudichaudi*, p. 209.
b. Scapulars black, edged with black; head black, mottled with ochre ..... *kubaryi*, p. 211. *tyro*, p. 212.

1. Sauromarptis gaudichaudi.

Dacelo gaudichaudi, *Quoy et Gaim. Voy. Uranie, Zool.* p. 112, pl. 25 (1824); *Cuv. Règne Anim.* i. p. 444 (1829).

Choncalcyon gaudichaudi, *Less. Traité*, p. 248 (1831); *id. Compl. Buff., Ois.* p. 654 (1838); *Bp. Consp. Volucr. Anis.* p. 9 (1854).

Dacelo gaudichaudi, *S. Müll. Verh. Land- en Volkenk.* p. 22 (1839–44); *Gray, Gen. B.* i. p. 78 (1846); *id. List Fissir. Brit. Mus.* p. 52 (1848); *Bp. Consp.* i. p. 154 (1850); *Cass. Cat. Halc. Philad. Mus.* p. 14 (1852); *Sel. Journ. Linn. Soc.* ii. p. 155 (1858); *Gray, P. Z. S.* 1858, p. 171, 1859, p. 154; *id. Cat. Mamm. & B. New Guinea*, pp. 29, 54 (1859); *id. P. Z. S.* 1861, p. 433; *Schl. Mus. Pays-Bas*, Alced. p. 20 (1863, pt.); *id. Vog. Nederl. Ind.*, Alced. pp. 13, 49, pl. 4. figs. 2, 3 (1864); *Rosenb. Nat. Tijdschr. Nederl. Ind.* xxv. p. 230 (1863); *id. J. f. O.* 1864, p. 118; *Finsch, Neu-Guinea*, p. 160 (1865, pt.); *Schl. Nederl. Tijdschr. Dierk.* iii. p. 339 (1866); *Rosenb. Reis naar Zuidoostereil.* p. 35 (1867); *Sharpe, Monogr. Alced.* p. 295, pl. 116 (1869); *Gray, Hand-l. B.* i. p. 89, no. 1063 (1869); *Schl. Mus. Pays-Bas*, Alced. *Revue,*

p. 11 (1874); *Rosenb. Reist. naar Geelvinkb.* pp. 83, 114 (1875); *D'Albert. Ann. Mus. Civic Genov.* x. p. 19 (1877); *Ramsay, Proc. Linn. Soc. N. S. W.* i. p. 389 (1877: Port Moresby); *Sharpe, Journ. Linn. Soc., Zool.* xiii. pp. 313, 493 (1878); *id. op. cit.* xiv. p. 686 (1879); *Ramsay, Proc. Linn. Soc. N. S. W.* iii. p. 251 (1878), iv. p. 97 (1879: Port Moresby); *Sharpe, Journ. Linn. Soc., Zool.* xvi. p. 429 (1882: Maroco; East Cape); *Tristr. Ibis*, 1889, p. 557.

Halcyon gaudichaudi, *S. Müll. Verh. Land- en Volkenk.* p. 471 (1839–44).

Monachalcyon gaudichaudi, *Reichenb. Handb., Alced.* p. 37, tab. 425. fig. 3156 (1851).

Sauromarptis gaudichaudi, *Cab. & Heine, Mus. Hein.* Th. ii. p. 164 (1860); *Salvad. Ann. Mus. Genov.* vii. p. 765 (1875); *id. & D'Albert. t. c.* p. 816 (1875); *Salvad. op. cit.* viii. p. 398 (1876), ix. p. 21 (1876), x. pp. 128, 306 (1877); *id. P. Z. S.* 1878, p. 94; *D'Albert. & Salvad. Ann. Mus. Genov.* xiv. p. 53 (1879); *id. Orn. Papuasia etc.* i. p. 487 (1880); *Meyer, Zeitschr. ges. Orn.* i. p. 276 (1884: Aru Islands); *id. op. cit.* iii. p. 34 (1886: Kafu); *Nehrk. J. f. O.* 1885, p. 32 (Waigiou).

Sauromarptis gaudichaudi aruensis, *Meyer, Ibis*, 1889, p. 557.

Adult male. General colour above black, the mantle, scapulars, and inner series of lesser wing-coverts being black; the upper back silvery white, mixed with blue; the lower back, rump, and upper tail-coverts brilliant silvery cobalt, the lateral upper tail-coverts darker blue; median and lower lesser coverts bright blue or black, tipped with blue, which inclines to silvery cobalt near the scapulars; greater wing-coverts black, edged with blue; primary-coverts and quills black, externally deep blue; tail-feathers deep blue, blackish internally and with black shafts; crown of head black, forming a cap, as also the sides of the face and ear-coverts; behind the eye a small streak of ochreous buff, and a band of the same colour from the nostrils to the edge of the gape; round the hind neck a broad collar of ochreous buff, the sides of the neck also ochreous; checks and throat white, with a slight ochreous tinge; rest of under surface of body deep rich chestnut; under wing-coverts and axillaries ochreous buff; quills dusky blackish below, ochreous along the inner web: "bill blackish above, whitish below; feet dusky leaden grey; iris chestnut-brown" (*D'Albertis*). Total length 12 inches, culmen 2·35, wing 5·3, tail 3·65, tarsus 0·7.

Adult female. Similar to the male in colour, but differs in having a chestnut-coloured tail, and also the lateral upper tail-coverts chestnut. Total length 12 inches, culmen 2·3, wing 5·6, tail 3·7, tarsus 0·7.

Young birds are generally recognized by the dusky margins to the feathers of the hind neck and underparts, and by their blackish bills. The young male at first resembles the adult female, but the upper tail-coverts and tail seem to change to blue without any moult.

A bird in the Gould Collection, evidently a Wallacian skin from the Aru Islands, but from which the label has disappeared, has a great deal of blue on the eyebrow, as well as a considerable patch of white on the upper back. One immature male from Waigiou has a little

blue over the eye, while an adult one has some of the dorsal feathers edged with blue. A Mysol specimen also shows a blue eyebrow. The variation in the size of the streak behind the eye is very marked; sometimes it is small and sometimes well developed. In birds from S.E. New Guinea the white spots on the nape are so well developed as almost to form a collar continuous with the white streaks behind the eye.

The amount of white on the upper back is a very variable character also. Sometimes it is almost obliterated, even in Aru-Island specimens, of which Dr. Meyer makes a subspecies on account of the greater amount of white on the upper back. Birds from S.E. New Guinea are also very white on the back, and I believe that the white patch increases with age, as all the young birds in the Collection show very little trace of it, whereas old birds have it largely developed. I greatly doubt the distinctness of *S. kubaryi* of Meyer, from N.E. New Guinea, which may be only a very old *S. gaudichaudi*. The single specimen examined by me from Constantine Harbour has certainly more whitish or silvery cobalt than the majority of specimens from New Guinea and the adjacent islands, but it is approached in colour by certain individuals from S.E. New Guinea and the Aru Islands.

Hab. New Guinea and Salawati; Batanta; Waigiou; Guebeh, Miosnom; Mysol; Aru Group.

a. Ad. sk.; *b*. ♀ ad. sk.	New Guinea (*A. R. Wallace*: *Sharpe Coll.*).	Tweeddale Coll.
c. ♀ imm. sk.	Dorey.	Wallace Coll.
d. Ad. sk.	Nekoora, S.E. New Guinea, Dec.	Tweeddale Coll.
e. Imm. sk.	Cloudy Bay, S.E. New Guinea.	Sir J. Ingham [P.].
f, *g*. Ad. sk.	Port Moresby (*A. Goldie*).	Gould Coll.
h, *i*. ♂ ad. et imm. sk.	Waigiou (*A. R. Wallace*).	Wallace Coll.
k. ♀ ad. sk.	Waigiou.	Salvin-Godman Coll
l, *m*. Ad. et imm. sk.	Mysol.	Gould Coll.
n–*q*. Ad. sk.	Aru Islands (*A. R. Wallace*).	Gould Coll.
r. ♂ ad.; *s*. ♀ imm. sk.	Aru Islands (*A. R. Wallace*).	Tweeddale Coll.
t, *u*. ♂ ♀ ad. sk.	Wokan, Aru Islands.	Voy. of H.M.S. 'Challenger.'

2. Sauromarptis kubaryi.

Sauromarptis kubaryi, *Meyer*, *Ibis*, 1890, p. 414 (Constantine Harbour).

Adult female. Similar to *D. gaudichaudi*, but having the blue of a more whitish or silvery cobalt, and having a large white patch on the upper back; bill yellowish green: feet greenish grey; iris light brown (*J. Kubary*). Total length 12·5 inches, culmen 2·4, wing 5·2, tail 3·7, tarsus 0·65.

Hab. N.E. New Guinea.

a. ♀ ad. sk.	Constantine Harbour, May 27.	Dr. Kubary [C.]

3. Sauromarptis tyro.

Dacelo sp., *Wall. Ann. & Mag. Nat. Hist.* (2) xx. p. 456 (1857).

Dacelo tyro, *Gray, P. Z. S.* 1858, pp. 171, 189, pl. 133; *id. Cat. Mamm. & B. New Guinea*, pp. 19, 54 (1859); *Gould, B. Asia*, i. pl. 51 (1860); *Gray, P. Z. S.* 1861, p. 433; *Rosenb. Nat. Tijdschr. Nederl. Ind.* xxv. p. 231 (1863); *id. J. f. O.* 1864, p 118; *Schl. Nederl. Tijdschr. Dierk.* iii. p. 339 (1866); *Rosenb. Reis naar Zuidoostereil.* p. 37 (1867); *Gray, Hand-l. B.* i. p. 89, n. 1064 (1869); *Sharpe, Monogr. Alced.* p. 297, pl. 117 (1869); *Pelz. Verh. z.-b. Ges. Wien*, p. 426 (1872); *Schl. Mus. Pays-Bas*, Alced. *Revue*, p. 13 (1874).

Sauromarptis tyro, *Cab. & Heine, Mus. Hein.* Th. ii. p. 164, note (1860); *Salvad. Ann. Mus. Genov.* x. p. 303 (1877); *id. P. Z. S.* 1878, p. 94; *id. Orn. Papuasia etc.* i. p. 495 (1880), iii. App. p. 525 (1882); *id. Rep. Voy. 'Challenger,'* ii. *Birds*, p. 77 (1881); *id. Agg. Orn. Papuasia*, i. p. 60 (1889).

Dacelo gaudichaudi, pt., *Schl. Mus. Pays-Bas*, Alced. p. 20 (1863); *id. Voy. Nederl. Ind.* pp. 13, 49, pl. iv. fig. 4 (1864); *Finsch, Neu-Guinea*, p. 160 (1865).

Sauromarptis cyanophrys, *Salvad. Atti R. Accad. Sci. Torino*, xvi. p. 621 (1881); *id. Ann. Mus. Genov.* xviii. p. 420 (1882); *id. Orn. Papuasia*, iii. App. p. 525 (1882); *Meyer, Zeitschr. ges. Orn.* i. p. 277 (1884); *Salvad. Agg. Orn. Papuasia*, i. p. 60 (1889).

Adult male. Crown of head, sides of face, ear-coverts, and cheeks black, mottled with concealed bars and terminal spots of ochraceous buff; lores deep ochre; the sides of the crown washed with blue; sides of neck, hind neck, and mantle more distinctly mottled than the crown, the ochreous spots on the hind neck larger and more rounded; the mantle ochreous buff, barred and fringed with black, the lower feathers with blue; scapulars black, with indistinct blue margins; back bright cobalt, mottled with silvery white just below the mantle; wing-coverts blue, with brighter blue edgings, the inner ones entirely bright cobalt; the greater coverts and the quills black, externally dull indigo-blue; lateral upper tail-coverts dark blue, with margins of brighter blue; tail-feathers blue, blackish on the inner margins and along the shafts; under surface of body rich ochreous buff, the throat paler, but the sides of the body, abdomen, and under tail-coverts deeper in colour and more tawny; under wing-coverts and axillaries, as well as the quill-lining, deep ochreous buff. Total length 13 inches, culmen 2·1, wing 5·7, tail 4·5, tarsus 0·75.

Adult female. Similar to the male, but a little duller in colour, the blue portions of the plumage being somewhat greener in tint than in the male. Total length 13 inches, culmen 2, wing 5·7, tail 4·5, tarsus 0·8.

Young. Not so numerously spotted as the adults, the black predominating on the head, while the lower mantle-feathers are broadly edged with black; the under surface is vinous buff, inclining to tawny on the flanks and under tail-coverts; the feathers of the throat and breast narrowly fringed with blackish.

S. cyanophrys of Count Salvadori is doubtless only a very old

bird of the present species. Both *S. tyro* and *S. gaudichaudi* often show traces of a blue eyebrow.

Hab. Aru Islands.

a, *b*. ♂ ad. ; *c*. ♀ ad. sk.	Aru Islands.	Wallace Coll. (Types of species.)
d. Ad. sk. ; *e*. ♀ ad. sk.	Aru Islands (*von Rosenberg*: *Sharpe Coll.*).	Tweeddale Coll.
f, *g*. Imm. sk.	Aru Islands.	Gould Coll.
h. ♂ juv. sk.	Wokan, Aru Islands.	Voy. of H.M.S. 'Challenger.'
i. Imm. sk.	S.E. New Guinea.	R. B. Sharpe, Esq. [P.].

16. HALCYON.

	Type.
Halcyon, *Swains. Zool. Illustr.* text to pl. 27 (1820)	H. senegalensis.
Entomothera, *Horsf. Tr. Linn. Soc.* xiii. p. 173, note (1820)	H. coromandus.
Callialcyon, *Bp. Consp.* i. p. 156 (1850)	H. coromandus.
Chelicutia, *Reichenb. Handb., Alced.* i. p. 38 (1851)	H. chelicutensis.
Aetenoides, *Hombr. & Jacq. Voy. Pôle Sud, Zool.* iii. p. 100 (1853)	H. hombroni.
Cancrophaga, *Bp. Consp. Volucr. Anis.* p. 9 (1854).	H. badius.
Cyanalcyon, *Bp. t. c.* p. 9 (1854)	H. pyrrhopygius.
Pagurothera, *Cab. & Heine, Mus. Hein.* Th. ii. p. 152 (1860)	H. chelicutensis.
Entomobia, *üid. t. c.* p. 154	H. cyaniventris.
Sauropatis, *üid. t. c.* p. 158	H. sanctus.
Caridagrus, *üid. t. c.* p. 161	H. concretus.
Astacophilus, *üid. t. c.* p. 162	H. lindsayi.

Range. From Palestine and Asia Minor to Persia. Throughout the whole of Africa and the Australian and Indian Regions to China, the southern islands of Japan, and Manchuria.

Key to the Species.

a. Bill entirely red.
- *a'*. Crown lilac-red like the rest of the upper surface ; a blue streak in the centre of lower back and rump ..... *coromandus*, p. 217.
- *b'*. Crown chestnut-rufous ; lower back bright greenish blue.
  - *a''*. Scapulars chestnut ; under surface of body white ..... *badius*, p. 221.
  - *b''*. Scapulars greenish blue.
    - *a'''*. Throat and centre of breast white .. *smyrnensis*, p. 222. / *saturatior*, p. 226.
    - *b'''*. Throat only white ; entire breast chestnut ..... *gularis*, p. 227.
- *c'*. Crown black ; lower back ultramarine-blue.
  - *c''*. Abdomen blue ..... *cyaniventris*, p. 228.
  - *d''*. Abdomen rich orange-buff ..... *pileatus*, p. 229.

d'. Crown uniform ashy whitish; lower back bright blue.
e''. Abdomen and under wing-coverts chestnut ..... } *semicæruleus*, p. 232.
f''. Abdomen and under wing-coverts orange-buff ..... } *erythrogaster*, p. 234.
pallidiventris, p. 235.

e'. Crown brown, very distinctly striped; bill shorter.
g''. Larger: wing 3·55–4·2 inches; scapulars black.
c'''. Breast and flanks distinctly streaked with black..... *albiventris*, p. 236.
d'''. Breast and flanks not streaked with brown, or very slightly so ..... *orientalis*, p. 238.
h''. Smaller: wing not exceeding 3 inches; scapulars brown ..... *chelicutensis*, p. 239.

f'. Crown of head ashy grey, washed with blue; breast ashy; centre of abdomen white.... *irroratus*, p. 242.

b. Upper mandible red; lower mandible black.
g'. Scapulars bright greenish cobalt..... } *senegalensis*, p. 242.
} *cyanolœucus*, p. 245.
h'. Scapulars black ..... *torquatus* and allies, [pp. 246–248.

c. Bill black, or blackish with white or buff base to lower mandible.
i'. Head white.
i''. Mantle green like the back.
e'''. Flanks pure white.
*a*⁴. A band of green from behind the eye encircling the nape ..... *albicillus*, p. 249.
*b*⁴. No band of green encircling the nape. *saurophagus*, p. 249.
f'''. Flanks tinged with buff ..... *admiralitatis*, p. 251.
k''. Mantle white, contrasting with the green back ..... *godeffroyi*, p. 251.
k'. Crown of head deep ultramarine-blue.
l''. Mantle and back white..... *albonotatus*, p. 251.
m''. Mantle blue.
g'''. No white loral spot; a white collar round hind neck; under tail-coverts rufous washed with lilac.
*c*⁴. Lower back white, flanked with beautiful lilac ..... *leucopygius* ♂, p. 252.
*d*⁴. Lower back blue like the mantle, with lilac on each side ..... *leucopygius* ♀, p. 252.
h'''. A white loral spot; no rufous collar round the hind neck.
*e*⁴. Under tail-coverts blue like the abdomen; no white collar on hind neck.
*a*⁵. Blue on underparts confined to abdomen, and not extending up the breast ..... *lazuli* ♂, p. 252.
*b*⁵. Blue on underparts occupying both breast and abdomen ..... *lazuli* ♀, p. 252.
*f*⁴. Under tail-coverts white.
*c*⁵. No white collar on hind neck.
*a*⁶. A blue band across the breast.. *diops* ♀, p. 253.
*b*⁶. No blue band on the breast, which is entirely white ..... *macleayi* ♀, p. 254.

d^5. A white collar round the hind neck.
c^6. Cheeks and ear-coverts blue .. *diops* ♂, p. 253.
d^6. Cheeks and ear-coverts black .. *macleayi* ♂, p. 254.
z'''. A rufous loral spot, and a rufous collar round hind neck ..... *winchelli*, p. 255.
n''. Mantle black.
k'''. Abdomen not rufous.
g^4. Abdomen blue.
e^5. Throat pure white; centre of breast white, separated from the throat by a broad band, which is blue like the abdomen ..... *nigrocyaneus* ♂, [p. 256.
f^5. Throat blue spotted with white; remainder of under surface blue . *stictolæmus* ♂, p. 257.
h^4. Abdomen white.
g^5. Pectoral band narrower, so that the white on the throat is more extended ..... *nigrocyaneus* ♀, [p. 256.
h^5. Pectoral band wider, so that the white on the throat is more restricted ..... *stictolæmus* ♀, p. 257.
l'''. Abdomen bright rufous; throat white; a broad blue band on the chest, separated from the rufous abdomen by a narrow white band ..... *quadricolor*, p. 258.
l'. Head green, streaked with white; back and rump cinnamon ..... *pyrrhopygius* ad., [p. 258.
m'. Head uniform cinnamon like the hind neck.
o''. Under surface deep cinnamon like the crown; throat like the breast ..... *cinnamominus*, [p. 259.
p''. Abdomen white.
m'''. Throat and chest cinnamon ..... *rufigularis*, p. 260.
n'''. Throat white.
i^4. Breast and sides of body cinnamon .. *mediocris* juv., p. 260.
k^4. Breast and sides of body white, like the rest of the under surface.
i^5. Larger: wing 3·9 inches ..... *mediocris* ad., p. 260.
k^5. Smaller: wing 3·3 inches..... *reichenbachii*, p. 261.
n'. Head cinnamon, with the centre of the crown uniform green; hind neck and underparts cinnamon ..... } *australasiæ*, p. 261.
o'. Head blue or greenish, sometimes dusky with a greenish-white shade. } *minor*, p. 262.
q''. With a very broad and distinct eyebrow reaching from the base of the nostrils completely round the nape.
o'''. Forehead like the crown.
l^4. Ear-coverts always bright blue like the crown; collar round the nape blue, or black washed with blue; eyebrow white or pale cinnamon .. *sacer*, p. 22.
m^4. Ear-coverts black, or black with a slight greenish tinge; band round nape always black, never blue .... *juliæ*, p. 264.
n^4. Ear-coverts light green like the head; eyebrow pale sandy buff .... *occipitalis*, p. 265.

p'''. Forehead white; sides of crown also white.

o^4. Head white, with a central patch of green ..... *pealii*, p. 266.

p^4. Head blue, with a white forehead .. *tutuilæ*, p. 266.

r''. No broad superciliary band extending round the nape; a loral spot of buff or white; an occipital patch of white, and sometimes a slightly indicated line of white over the eye.

q'''. Under surface of body and under wing-coverts orange-buff, as well as the collar round the hind neck *.

q^4. Occipital patch cinnamon-rufous; loral spot very large, deep orange-buff, extending over the eye; head and ear-coverts blue, like the rest of the upper surface ..... *tannensis*, p. 266.

r^4. Occipital patch orange-buff or white like the hind neck; under surface deep tawny buff. Size large: wing over 4 inches ..... *tristrami*, p. 267.

s^4. Occipital patch white; hind neck orange or sandy buff. Size smaller: wing not exceeding 4 inches ..... *sanctus*, p. 267. *vagans*, p. 271.

r'''. Under surface of body and under wing-coverts white, sometimes with a slight shade of tawny buff on the sides and under wing-coverts.

t^4. With no fawn-colour on the breast and flanks.

l^5. Ear-coverts black, with a greenish shade along the lower margin; a broad and distinct black collar round the nape, connected with the black ear-coverts.

e^6. Occipital patch cinnamon ..... *cassini*, p. 273.

f^6. Occipital patch small, white:

a^7. Under surface pure white (*adult*) or with dusky fringes to the feathers.

a^8. Head and back green or greenish blue ..... *chloris*, p. 273.

b^8. Head and back dusky green or blackish ..... *sordidus*, p. 277.

b^7. Under surface white, thickly banded with black like the sides of the neck and cheeks. *forsteni*, p. 278.

m^5. Ear-coverts green or greenish blue; black collar round nape very indistinct or obsolete.

g^6. No black on the mantle below the collar.

* A fulvous tinge is sometimes present on the underparts of some of the races of *H. chloris*, but is never a strongly marked character as it is in the *H.-sanctus* group.

c^7. Outer aspect of quills and tail bright blue.
c^8. Larger: with a creamy tinge on the underparts ..... *vidali*, p. 279.
d^8. Smaller: underparts pure white ..... *abyssinicus*, p. 280.
d^7. Outer aspect of quills and tail greenish blue ..... *armstrongi*, p. 278.
h^6. Upper mantle black.
e^7. With the white occipital patch obsolete ..... *solomonis*, p. 280.
f^7. With the white occipital patch very large ..... *suvensis*, p. 281.
u^4. With a tinge of fawn-colour on the sides of the body; wings brilliant ultramarine.
n^5. Centre of breast white.
i^6. Ear-coverts bright blue like the head; no distinct black nape-collar; sides of body tawny buff ..... *humii*, p. 281.
k^6. Ear-coverts black, scarcely washed with blue, and continued into a distinct black collar round the nape ..... *meyeri*, p. 282.
o^5. Entire breast and abdomen light tawny like the flanks ..... *davisoni*, p. 282.
p'. Head black, as also the sides of the face and ear-coverts, which join a very broad black band below the nape; a white loral spot; a broad band of white washed with greenish blue from the eye round the nape; back blackish ..... *funebris*, p. 283.
d. Bill blackish on upper mandible, orange on lower mandible.
q'. Lower back green; tail olive-green; breast scaly; mantle mottled with spots of ochre.
s''. Breast-feathers edged with green.
s'''. Moustache bright blue like the nape-collar ..... *lindsayi* ♂, p. 286.
t'''. Moustache green like the nape-collar .. *lindsayi* ♀, p. 286.
t''. Breast-feathers edged with black ..... *moseleyi*, p. 288.
r'. Lower back bright cobalt; tail deep blue; moustache deep blue.
u''. Back purplish blue like the wings .... *concretus* ♂, p. 285.
v''. Back green like the wings; the latter spotted with ochre ..... *concretus* ♀, p. 285.
e. Bill red, with black culmen; lower back bright blue ..... *hombroni*, p. 284.

1. Halcyon coromandus.

Le Martin Pêcheur violet des Indes, *Sonn. Voy. Ind. Orient.* ii. p. 212 (1782).
Le Martin Pêcheur violet de la côte de Coromandel, *Sonn. t. c.* pl. 118 (1782).

Alcedo coromanda, *Lath. Ind. Orn.* i. p. 252 (1790); *Horsf. Trans. Linn. Soc.* xiii. p. 174 (1820).

Halcyon coromanda, *Steph. in Shaw's Gen. Zool.* xiii. pt. 2, p. 100 (1826); *Cass. Cat. Halc. Philad. Mus.* p. 7 (1852); *Sharpe, Monogr. Alced.* p. 155, pl. 57 (1870); *Ball, J. A. S. Beng.* xli. p. 277 (1872); *id. Str. F.* i. p. 58 (1873); *Hume, Str. F.* ii. pp. 169, 494 (Andamans), p. 470; *Blyth & Wald. B. Burm.* p. 70 (1875); *Wardlaw Ramsay, Ibis*, 1870, p. 456 (Tonghoo); *Hume & Davis. Str. F.* vi. p. 75 (1878: Tenasserim); *Sharpe, Ibis*, 1879, p. 249 (Lawas River); *id. P. Z. S.* 1879, p. 331 (Labuan); *Hume, Str. F.* viii. pp. 49, 85 (1879); *Sharpe, P. Z. S.* 1881, p. 793 (Sandakan); *Jouy, Proc. U.S. Nat. Mus.* vi. p. 310 (1883: Japan); *Oates, Handb. B. Br. Burm.* ii. p. 81 (1883); *Guillem. P. Z. S.* 1885, pp. 407, 548; *Blakist. Amend. List B. Japan*, p. 14 (1884); *Seeb. Ibis*, 1887, p. 176 (Liu Kiu); *Stejn. Proc. U.S. Nat. Mus.* x. p. 403 (1887); *Hume, Str. F.* xi. p. 44 (1888: Manipur); *Tacz. P. Z. S.* 1888, p. 454 (Corea); *Sharpe, Ibis*, 1888, p. 197 (Palawan); *Styan, Ibis*, 1889, p. 446 (Foochow); *Everett, P. Z. S.* 1889, p. 226; *id. Journ. Straits Branch R. Asiat. Soc.* 1889, p. 160; *Sharpe, Ibis*, 1890, pp. 20, 283 (N.W. Borneo); *Whitehead, t. c.* p. 46 (Palawan); *Seebohm, B. Japan. Emp.* p. 173 (1890); *Steere, List Birds & Mamm. Steere Exped. Philipp.* p. 11 (1890: Luzon, Guimaras).

Halcyon coromandelicus, *Vigors, App. Mem. Raffl.* p. 654 (1830); *Stoliczka, J. A. S. Beng.* xxxix. p. 296 (1870: Prov. Wellesley); *Walden, Ibis*, 1871, p. 165.

Dacelo coromanda, *Less. Traité*, p. 247 (1831); *Schl. Mus. Pays-Bas*, Alced. *Revue*, p. 16 (1874).

Halcyon lilacina, *Swains. Classif. B.* ii. p. 335 (1837); *Bp. Consp.* i. p. 156 (1850); *Motley & Dillw. Nat. Hist. Labuan*, p. 13 (1855); *Scl. P. Z. S.* 1863, p. 213.

Alcyon calipyga, *Hodgs. Icon. ined. in Brit. Mus., Passeres*, pl. 16. no. 769; *id. in Gray's Zool. Misc.* p. 82 (1844).

Halcyon coromandra, *Gray, Cat. Mamm. etc. Nepal pres. Hodgs.* p. 56 (1846).

Halcyon coromandeliana, *Gray, Gen. B.* i. p. 79 (1846); *id. List Fissir. Brit. Mus.* p. 55 (1848); *Horsf. & Moore, Cat. B. Mus. E.I. Co.* i. p. 126 (1854); *Jerd. B. Ind.* i. p. 227 (1862); *Swinh. Ibis*, 1863, p. 259; *id. P. Z. S.* 1863, p. 333; *id. P. Z. S.* 1871, p. 347; *Gray, Hand-l. B.* i. p. 91, no. 1099 (1869); *Blakist. & Pryer, Ibis*, 1878, p. 230; *Seebohm, Ibis*, 1879, p. 29.

Halcyon coromanda major, *Temm. & Schl. Faun. Japon.* p. 75, pl. 39 (1842).

Halcyon coromanda minor, *Temm. & Schl. Faun. Japon.* p. 76 (1842).

Halcyon coromander, *Blyth, Cat. B. Mus. As. Soc.* p. 47 (1849).

Halcyon schlegeli, *Bp. Consp.* i. p. 156 (1850).

Callialcyon coromanda, *Reichenb. Handb., Alced.* p. 15, Taf. 405. fig. 3092 (1851); *Bp. Consp. Vol. Anis.* p. 9 (1854); *Wald. Ibis*, 1873, p. 302 (S. Andamans); *Salvad. Ucc. Born.* p. 793 (1874); *Wald. Trans. Z. S.* ix. p. 155 (1875); *Tweedd. P. Z. S.* 1878, p. 944 (Zamboanga); *David & Oust. Ois. Chine*, p. 76 (1877); *Müller, J. f. O.* 1882, p. 398 (Salanga); *Vorderm. Nat. Tijdschr. Nederl. Ind.* xlvi. p. 11 (1886).

Callialcyon lilacina, *Bp. Consp. Vol. Anis.* p. 9 (1854).

Callialcyon schlegeli, *Bp. t. c.* p. 9 (1854).

Dacelo coromandeliana, *Schl. Mus. Pays-Bas*, Alced. p. 25 (1863, pt.); *id. Vog. Nederl. Ind.* pp. 24, 56, pl. 8. fig. (1864).

Dacelo coramandeliana major, *Schl. Mus. Pays-Bas*, Alced. p. 25 (1863).
Halcyon rufa, *Wall. P. Z. S.* 1862, p. 338.
Halcyon coromanda, var. rufa, *Brüggem. Abhandl. nat. Ver. Bremen*, v. p. 54 (1876: Celebes, Sanghir).
Callialcyon rufa, *Wald. Trans. Z. S.* viii. p. 44 (1872); *Salvad. Ann. Mus. Civ. Genov.* vii. p. 653 (1877: Celebes); *Meyer, Ibis*, 1879, p. 62 (Celebes); *Blasius, Zeitschr. ges. Orn.* iii. p. 90 (1886); *id. Ornis*, iv. p. 572 (1888: Great Sanghir).
Halcyon coromanda rufa, *Stejn. Proc. U.S. Nat. Mus.* x. p. 403 (1887).

Adult male. General colour above rufous with a lilac gloss, with the lower back and rump silvery blue slightly tinged with lilac; quills and tail rufous with more or less of a lilac gloss; sides of face, ear-coverts, and cheeks like the head; under surface of body cinnamon-buff, lighter on the abdomen, becoming gradually paler on the throat, which fades to buffy white on the chin; under wing-coverts deep orange-buff; quills reddish below, pale chestnut on the inner web: "bill red, blackish at the base; legs and claws red; iris brown" (*E. W. Oates*). Total length 9·5 inches, culmen 2·25, wing 4·7, tail 2·7, tarsus 0·5.

Adult female. Similar to the male in colour, but perhaps not so bright. Total length 9 inches, culmen 2·25, wing 4·15, tail 2·5, tarsus 0·55.

Young. Duller in colour and browner than the adults, the head more rufous than the back; the bill blackish, with a horny white tip; under surface of body light fawn-colour, the throat white; the cheeks and the underparts crossed with wavy lines of dusky brown: "bill dark brown, except at the extreme tip of lower mandible for about 0·25 from tip, the sides and angle of gonys, the gape, and one third of the upper mandible from tip gradually coming to a point on ridge of culmen, which were a very pale yellowish orange; legs and feet dark red-brown, soles pale red; iris bluish grey" (*W. Davison*).

The ordinary form of *H. coromandus* from the Himalayas, Manchuria, and Japan is rather pale. The insular forms are darker and richer in colour, especially the one inhabiting the Andamans. Specimens from Borneo are rather smaller; but the only race really deserving of subspecific separation seems to me to be the bird from Celebes, which Mr. Wallace called *Halcyon rufa*.

Hab. Eastern Asia from Corea to Japan and the Liu-Kiu Islands, Eastern China and Formosa; Eastern Himalayas; throughout the Indo-Chinese region to Java, Sumatra, Borneo, the Philippines, Celebes, and Sanghir. In the last two localities a permanently dark and large race occurs (*H. rufa*, Wall.).

a,b. Ad.; *c.* Juv. sk.	Nepal.	Hodgson Coll. (Types of *H. callipyga*.)
d. Ad. sk.	Native Sikhim, Oct. (*L. Mandelli*).	Hume Coll.
e–r. Ad.; *s, t.* Juv. sk.	Sikhim, March to November (*L. Mandelli*).	Hume Coll.
u. Ad. sk.	Sikhim, Nov.	Tweeddale Coll.

v. ♀ juv. sk.	Darjiling, 1200 feet.	Hume Coll.
w, *x*. Ad.; *y*. Juv. sk.	Darjiling.	Hume Coll.
z. Juv. sk.	Darjiling (*Sharpe Coll.*).	Tweeddale Coll.
a'. ♂ ad. sk.	Darjiling Terai, May 20.	Hume Coll.
b'. Juv. sk.	Tista River, July 10 (*H. J. Elwes*).	Tweeddale Coll.
c'. Ad. sk.	Lower Pegu, April 14 (*E. W. O.*).	Oates Coll.
d'. ♀ ad. sk.	Maygola, Tenasserim, April 14 (*W. Limborg*).	Tweeddale Coll.
e'. ♀ ad. sk.	Thatone, Aug. 9 (*W. Davison*).	Hume Coll.
f'. ♀ ad. sk.	Wippiton, Dec. 7 (*J. Darling*).	Hume Coll.
g', *h'*. ♂ ad.; *i*. ♀ ad.; *k'*, *l'*, *m'*. Juv. sk.	Amherst, June, July (*W. D.*).	Hume Coll.
n'. ♀ ad. sk.	Meeta Myo, April 18 (*W. D.*).	Hume Coll.
o'. ♂ ad. sk.	Malawun, Feb. 27.	Oates Coll.
p', *q'*. ♂ ♀ ad. sk.	Kossoum, April, June (*J. Darling*).	Hume Coll.
r'. ♀ ad. sk.	Tapraw, April 18 (*J. Darling*).	Hume Coll.
s', *t'*. Ad.; *u'*. juv. sk.	Penang (*Sharpe Coll.*).	Tweeddale Coll.
v'. Ad. sk.	Malacca, Aug. (*W. Davison*).	Hume Coll.
w'. Ad. sk.	Malacca (*Dr. Maingay*).	Tweeddale Coll.
x', *y'*. ♂ ad.; *z''*. ♀ ad.; *a''*. ♂ juv. sk.	Johore, Feb., July, Aug. (*W. D.*).	Hume Coll.
b'', *c''*. Ad. et juv. sk.	Formosa (*R. Swinhoe*).	Seebohm Coll.
d''. ♂ ad. sk.	Formosa (*R. S.*).	Tweeddale Coll.
e''. Ad. sk.	Liu Kiu Islands, July (*H. Pryer*).	Seebohm Coll.
f''. Imm. sk.	Japan (*Sharpe Coll.*).	Tweeddale Coll.
g''. ♂ juv. sk.	Nagasaki, Sept. 6.	F. Ringer, Esq. [P.].
h''. ♀ ad. sk.	Hakodate, Aug. 5 (*J. Blakiston*).	Seebohm Coll.
i'', *k''*. Ad. sk.	Yokohama (*H. Pryer*).	Seebohm Coll.
l''. ♀ ad. sk.	S. Manchuria, June 20.	H. E. M. James, Esq. [P.].
m''. ♂ ad.; *n''*, *o''*, *p''*. ♀ ad.; *q''*. ♀ imm. sk.	S. Andamans, April to July, Sept. (*W. Davison*).	Hume Coll.
r'', *s''*. ♂ ad.; *t''*, *u''*. ♀ ad. sk.	S. Andamans, Jan., Feb. (*R. G. W. R.*).	Tweeddale Coll.
v'', *w''*, *x''*. Ad. sk.	Port Blair, S. Andamans.	Hume Coll.
y''. ♂ ad. sk.	Port Mouat, April 19 (*W. D.*).	Hume Coll.
z''. Ad. sk.	Nicobars.	Tweeddale Coll.
*a*³. ♂ ad. sk.	Sumatra (*Sharpe Coll.*).	Tweeddale Coll.
*b*³. ♀ ad. sk.	Sumatra.	Wallace Coll.
*c*³. Ad. sk.	Java (*Dr. Horsfield*).	India Museum.
*d*³. Ad. sk.	Java.	Tweeddale Coll.
*e*³, *f*³, *g*³. Ad. sk.	Labuan (*Sir H. Low*: *Sharpe Coll.*).	Tweeddale Coll.
*h*³, *i*³. Ad. sk.	Sarawak.	Rajah Brooke [P.].
*k*³. ♀ ad. sk.	Simunjon (*A. Everett*).	Tweeddale Coll.
*l*³. ♂ ad. sk.	Simunjon (*A. Everett*).	Gould Coll.
*m*³. Juv. sk.	Philippine Islands.	Gould Coll.
*n*³, *o*³. Ad. sk.	Manila.	Gould Coll.
*p*³. ♂ ad. sk.	Zamboanga, March (*A. Everett*).	Tweeddale Coll.

a. *Halcyon rufus.*

q^3. Ad. sk.	Celebes.	Gould Coll.
r^3. Ad. sk.	Celebes.	Dr. A. B. Meyer [C.].
s^3. ♂ ad. sk.	Makassar.	Wallace Coll. (Type of *H. rufa.*)
t^3, u^3, v^3. Ad. sk.	Menado (*Sharpe Coll.*).	Tweeddale Coll.
w^3. Ad. sk.	Menado.	Hume Coll.

2. Halcyon badius.

Halcyon badia, *Verr. Rev. et Mag. de Zool.* 1851, p. 264 (Gaboon); *Hartl. Orn. West-Afr.* p. 33 (1857); *Cass. Proc. Philad. Acad.* 1859, p. 34 (Ogowé River); *Heine, J. f. O.* 1860, p. 187; *Hartl. J. f. O.* 1861, p. 105; *Gray, Hand-l. B.* i. p. 90, no. 1086 (1869); *Sharpe, Monogr. Alced.* p. 159, pl. 58 (1869); *id. Ibis*, 1870, p. 484 (Fantee); *Ussher, Ibis*, 1874, p. 50 (Denkera); *Sharpe & Bouvier, Bull. Soc. Zool. France*, ii. p. 474 (1877 : Chissambo); *Oust. Nouv. Arch. Mus.* (2) ii. *Bull.* p. 130 (1879 : Gaboon); *Bocage, Orn. Angola*, p. 538 (1881); *Büttik. Notes Leyden Mus.* vii. p. 165 (1885 : Liberia); *id. op. cit.* x. p. 69 (1888).

? Halcyon cancrophaga, *Strickl. Contr. Orn.* 1851, p. 134.

Cancrophaga badia, *Bp. Consp. Vol. Anis.* p. 9 (1854).

Dacelo badia, *Schl. Mus. Pays-Bas*, Alced. p. 28 (1863); *id. op. cit. Revue*, p. 19 (1874).

Adult. General colour above deep maroon-chestnut, becoming more dusky on the feathers of the mantle, upper back, and scapulars, which are brownish with chestnut margins; lesser wing-coverts dull chestnut; median and greater coverts black, with chestnut edges; bastard-wing, primary-coverts, and quills black, the latter whitish at the extreme base and bright cobalt near the base of the outer web, forming an oblique broad bar across the wing; back, rump, and upper tail-coverts bright cobalt; lateral upper tail-coverts black, with blue margins; tail-feathers blue, with black shafts, and blackish along the inner margins and at the ends; sides of face, ear-coverts, cheeks, and sides of neck deep maroon-chestnut; entire under surface of body white; the sides of the body blackish, slightly washed with chestnut; under wing-coverts and axillaries white, with a dusky blackish patch near the edge of the wing formed by the lower primary-coverts; quills dusky below, white at base: "bill vermilion-red; feet brown; iris dark brown" (*J. Büttikofer*). Total length 8·3 inches, culmen 1·65, wing 3·55, tail 2·1, tarsus 0·4.

Younger birds are similar to the adult, but having the white feathers of the underparts fringed with dusky blackish lines.

Hab. West Africa, from Liberia to the Congo.

a, b. Ad. sk.	Forests of Ashantee.	Godfrey Lagden, Esq. [P.].
c. Ad. sk.	Gold Coast (*Kirby*).	Shelley Coll.
d, e. Ad.; *f.* Juv. sk.	Fantee.	Sharpe Coll.
g, h. Ad. sk.	Fantee (*H. T. Ussher*).	Shelley Coll.
i. Imm. sk.	Gaboon (*Sharpe Coll.*).	Tweeddale Coll.

k. Imm. sk.	Gaboon (*H. T. Ansell*).	Shelley Coll.
l. Ad. sk.	Gaboon.	M. Verreaux.
m. Imm. sk.	Gaboon (*J. Walker*).	Gould Coll.

3. Halcyon smyrnensis.

The Smirna Kingfisher, *Albin, Nat. Hist. B.* iii. p. 27, pl. 27 (1740).
The Large Kingfisher from Bengale, *Albin, t. c.* p. 27, pl. 28 (1740).
? The Great Kingfisher from the River Gambia, *Edwards, N. Hist. B.* i. p. 8, pl. 8 (1743).
Le Martin-pescheur de Smyrne, *Briss. Orn.* iv. p. 499 (1760).
Le Grand Martin-pescheur de Bengale, *Briss. t. c.* p. 501 (1760).
Alcedo smyrnensis, *Linn. Syst. Nat.* i. p. 181; *Gm. Syst. Nat.* i. p. 456 (1788); *Eyton, P. Z. S.* 1839, p. 101.
Martin-pêcheur de la côte de Malabar, *Daubent. Pl. Enl.* viii. pl. 894.
Smyrna Kingfisher, *Lath. Gen. Syn.* i. pt. 2, p. 615 (1782).
Great Gambian Kingfisher, var. A, *Lath. t. c.* p. 616 (1782).
Great Bengal Kingfisher, var. B, *Lath. t. c.* p. 616 (1782).
Alcedo fusca, *Bodd. Tabl. Pl. Enl.* p. 54 (1783).
Dacelo smyrnensis, *Less. Traité*, ii. p. 246 (1831).
Halcyon smyrnensis, *Steph. in Shaw's Gen. Zool.* xiii. p. 99 (1826); *Sykes, P. Z. S.* 1832, p. 84; *McClell. P. Z. S.* 1839, p. 156; *Jerd. Madr. Journ.* xi. p. 230 (1840); *Strickl. Ann. & Mag. Nat. Hist.* ix. p. 441 (1842); *Gray, Cat. Mamm. etc. Nepal. pres. Hodgs.* p. 57 (1846); *id. Gen. B.* i. p. 79 (1846); *id. List Fissir. Brit. Mus.* p. 55 (1848); *Blyth, Cat. B. Mus. As. Soc.* p. 47 (1849); *Bp. Consp.* i. p. 155 (1850); *Cass. Cat. Halc. Philad. Mus.* p. 6 (1852); *Moore, P. Z. S.* 1854, p. 288 (Penang); *Horsf. & Moore, Cat. B. Mus. E.I. Co.* i. p. 125 (1854); *Swinh. Ibis*, 1860, p. 48, 1861, p. 31; *Irby, Ibis*, 1861, p. 227; *Tristr. Ibis*, 1866, p. 86 (Palestine); *Blyth, t. c.* p. 348; *Gray, Hand-l. B.* i. p. 91, no. 1095 (1869); *Sharpe, Monogr. Alced.* p. 161, pl. 59 (1870); *Swinh. Ibis*, 1870, p. 93 (Hainan); *Blanf. t. c.* p. 465 (Pegu); *Swinh. P. Z. S.* 1871, p. 347 (China); *Blanf. J. A. S. Beng.* xl. p. 271 (1871: Wardha Valley); *Holdsw. P. Z. S.* 1872, p. 424; *Stoliczka, J. A. S. Beng.* xli. p. 232 (1872); *Hayes Lloyd, Ibis*, 1873, p. 407 (Kathiawar); *Hume, Nests & Eggs Ind. B.* p. 105 (1873); *id. Str. F.* i. pp. 103, 115, 168 (1873); *Adam, t. c.* p. 372 (Sambhur); *Ball, Str. F.* ii. p. 387 (1874: Chota Nagpur); *Hume, t. c.* p. 470; *Blyth & Wald. B. Burm.* p. 70 (1875); *Hume, Str. F.* iii. p. 51 (1875: Pegu); *Butler, t. c.* p. 456 (Mt. Abu); *id. Str. F.* iv. p. 34 (1876); *Fairb. t. c.* p. 254 (Khandala); *Armstr. t. c.* p. 306 (Irawady Delta); *Hume, t. c.* p. 383 (Travancore); *Blanf. East. Persia*, ii. p. 121 (1876); *Hume, Str. F.* v. p. 19 (1877: Cachar); *Oates, t. c.* p. 143 (Pegu); *Fairb. t. c.* p. 594 (Palanis); *Hume & Davison, Str. F.* vi. p. 74 (1878); *Hume, Str. F.* vii. p. 54 (1878); *Davidson & Wenden, t. c.* p. 77 (Deccan); *Murray, t. c.* p. 112 (Sehwan); *Ball, t. c.* p. 204 (C. India); *Cripps, t. c.* p. 260 (Furreedpore); *Anderson, Zool. Exped. Yun-nan*, p. 579 (1878: Upper Bermah); *Hume, Str. F.* viii. pp. 49, 85 (Malacca); *Scully, t. c.* p. 238 (Nepal); *Doig, t. c.* p. 370 (E. Narra); *Legge, B. Ceylon*, p. 298 (1879); *Butler, Cat. B. Sind etc.* p. 16 (1879); *id. Cat. B. S. Bomb. Pres.* p. 19 (1880); *Vidal, Str. F.* ix. p. 49 (1880: S. Konkan); *Bingham, t. c.* p. 154 (Thoungyeen); *Danf. Ibis*, 1880, p. 83 (Asia Minor); *Butler, Str. F.* ix. p. 382 (1881);

Kelham, Ibis, 1881, p. 380 (Perak); *Reid, Str. F.* x. p. 21 (1881: Lucknow); *Davidson, Str. F.* x. p. 296 (1882: Khandeish); *Davison, t. c.* p. 351 (1883: Mysore); *Oates, Handb. B. Br. Burm.* ii. p. 82 (1883); *Tristr. Faun. & Flor. Palest.* p. 87 (1884); *Murray, Vertebr. Faun. Sind*, p. 110 (1884); *C. H. T. Marshall, Ibis*, 1884, p. 409 (Chamba); *Swinh. & Barnes, Ibis*, 1885, p. 61 (Mhow); *Radde, Ibis*, 1885, p. 237; *Sharpe, Ibis*, 1886, p. 488 (Fao); *Taylor, Str. F.* x. p. 457 (1887: Manzeerabad); *Terry, t. c.* p. 471 (Palanis); *Styan, Ibis*, 1887, p. 230 (Foochow); *Guillem. Ibis*, 1888, p. 102 (Cyprus); *Hume, Str. F.* xi. p. 44 (1888: Manipur); *St. John, Ibis*, 1889, p. 157; *Oates, ed. Hume's Nests & Eggs*, iii. p. 15 (1890).

Alcyon smyrnensis, *Hodgs. Icon. ined. Brit. Mus., Passeres*, pl. 17. fig. 1 (no. 590); *id. in Gray's Zool. Misc.* p. 82 (1844).

Halcyon fusca, *Gray, Gen. B.* i. p. 79 (1846); *id. List Fissir. Brit. Mus.* p. 55 (1848); *Bp. Consp.* i. p. 155 (1850); *Cass. Cat. Halc. Philad. Mus.* p. 6 (1852); *Horsf. & Moore, Cat. B. Mus. E.I. Co.* i. p. 125 (1854); *Jerd. B. Ind.* i. p. 224 (1862); *Beavan, Ibis*, 1865, p. 408 (Maunbhoom); *Blyth, Ibis*, 1868, p. 348; *Walden, Ibis*, 1871, p. 165; *Cordeaux, Ibis*, 1888, p. 225 (Dras).

Entomothera smyrnensis, *Reichenb. Handb., Alced.* p. 13 (1851).

Entomothera fusca, *Reichenb. t. c.* p. 12, Taf. 404. figs. 3088–89 (1851).

Entomobia smyrnensis, *Cab. & Heine, Mus. Hein.* Th. ii. p. 155, note (1860); *David & Oust. Ois. Chine*, p. 76 (1877); *Salvad. Ann. Mus. Genov.* iv. p. 587 (1886: Bhamo).

Entomobia fusca, *Cab. & Heine, t. c.* p. 155 (1860).

Dacelo fusca, *Schl. Mus. Pays-Bas*, Alced. p. 28 (1863); *id. Revue*, p. 18 (1874); *Heugl. Orn. N.O.-Afr.* p. 188 (1869).

Adult male. General colour above bright greenish blue, a little brighter cobalt on the longer scapulars; entire back from below the mantle to the upper tail-coverts bright cobalt-blue; lesser wing-coverts deep chestnut; median series black, slightly washed with blue on the margins; greater series dark greenish blue; bastard-wing, primary-coverts, and quills bright cobalt, the innermost secondaries entirely blue, the remainder of the quills blackish at their ends, with the greater part of the inner web white; tail-feathers greenish blue above, with black shafts and dusky-blackish edgings to the inner webs; crown of head and hind neck deep maroon-chestnut, spreading a little on to the upper mantle; sides of face, cheeks, ear-coverts, sides of neck, sides of breast, and under-parts maroon-chestnut; the whole of the throat, fore neck, and centre of breast white, with a slight blue gloss on the latter under certain lights; axillaries and under wing-coverts also maroon; edge of wing and base of quills white. Total length 11 inches, culmen 2·7, wing 4·7, tail 2·9, tarsus 0·6.

Adult female. Similar to the male, but not quite so bright, and with the rufous portions of the plumage rather paler: "bill and feet coral-red; iris brown" (*E. A. Butler*). Total length 11 inches, culmen 2·5, wing 4·7, tail 3·4, tarsus 0·5.

Hab. From Cyprus and Asia Minor to Syria and Palestine, eastward through Persia to Baluchistan; throughout the whole of the Indian

Peninsula, Ceylon, Indo-Chinese countries, and the Malayan Peninsula, eastwards to South China and Formosa.

a. Ad. sk.	Smyrna.	Gould Coll.
b. Ad. st.	Xanthus, Asia Minor.	Sir C. Fellowes [P.].
c. Ad. sk.	Syria (*Sharpe Coll.*).	Tweeddale Coll.
d, *e*. ♂ ♀ ad. sk.	Jericho, Jan. 2 (*H. B. Tristram*).	Salvin-Godman Coll.
f, *g*. ♂ ♀ ad. sk.	Mesopotamia.	Commander Jones [C.].
h. Ad. sk.	Fao, Persian Gulf.	W. D. Cumming, Esq. [P.].
i, *k*. Ad. sk.	Bagdad.	Sir Kenneth Loftus [P.].
l. ♀ ad. sk.	Kazerm (2750 ft.), W. of Shiraz, Jan. (*Sir O. St. John*).	Hume Coll.
m. ♀ ad. sk.	Pishin, Persian Baluchistan, Feb. 9.	W. T. Blanford, Esq. [P.].
n. Imm. sk.	Miani, Sindh (*Sharpe Coll.*).	Tweeddale Coll.
o. ♂ ad. sk.	Larkhana, Jan. 5 (*A. O. H.*).	Hume Coll.
p. ♂ ad. sk.	Sukhur, Dec. 30 (*A. O. H.*).	Hume Coll.
q. ♂ ad. sk.	Jacobabad, Dec. 23 (*A. O. H.*).	Hume Coll.
r. ♀ ad. sk.	Hydrabad (*Dr. H. Gould*).	India Museum.
s, *t*. ♀ ad. sk.	Karachi, Nov., Feb. (*E. A. Butler*).	Hume Coll.
u. Ad. sk.	Kattiawar, March 24.	Colonel Hayes Lloyd [P.].
v. ♀ ad. sk.	Deesa, March 14 (*E. A. Butler*).	Hume Coll.
w, *x*. ♂ ♀ ad. sk.	Oodypur, Feb. (*A. O. H.*).	Hume Coll.
y, *z*. ♂ ♀ ad.; *a'*. ♂ nestling sk.	Sambhur, Dec. June (*R. M. Adam*).	Hume Coll.
b'. Ad. sk.	Delhi.	Hume Coll.
c'–*f'*. ♂ ad. et juv.; *g'*, *h'*, *i'*. ♀ ad. et juv. sk.	Gurgaon District, Feb., April, July, Oct., Nov. (*W. N. Chill*).	Hume Coll.
k'–*o'*. ♂ ♀ ad. sk.	Sirza, Punjab.	Hume Coll.
p', *q'*. Ad. sk.	Dehra Ghazi Khan, March.	Hume Coll.
r'. Ad. sk.	Moultan (*Capt. Tweedie*).	Gould Coll.
s'. Ad. sk.	Cashmere.	E. M. Langworthy, Esq. [P.].
t'. Ad. sk.	Doo Saree, Jan. 22 (*Keith Abbott*).	Gould Coll.
u'. Ad. sk.	Kalka, Nov. 7 (*A. O. H.*).	Hume Coll.
v', *w'*, *x'*. ♂ ad. sk.	Umbala, Nov. (*R. C. Beavan*).	Tweeddale Coll.
y', *z'*, *a''*. ♂ ad. sk.	Jerripanee, Masuri.	Hume Coll.
b''. ♀ ad. sk.	Dhoon.	Hume Coll.
c''. Ad. sk.	Kaladoongi, Sept. 27.	Hume Coll.
d''. Ad. sk.	Kumaon (*Strachey*).	India Museum.
e''. ♂ ad. sk.	Cawnpur, Jan. 13.	Hume Coll.
f'', *g''*. Ad. sk.	Oudh, Dec., Feb.	Hume Coll.
h''. Ad. sk.	Oudh.	Pinwill Coll.
i''–*m''*. Ad. sk.	Nepal.	Hodgson Coll.
n''. ♂ ad. sk.	Nepal Valley, March (*J. Scully*).	Hume Coll.
o'', *p''*. Ad. sk.	Darjeeling Terai, Nov., Jan. (*L. Mandelli*).	Hume Coll.

q''. Ad. sk.	Buxa Doars, Feb. (*L. Mandelli*).	Hume Coll.
r'', *s''*, *t''*. Ad. sk.	Bhotan Doars, Jan., April (*L. M.*).	Hume Coll.
u''. ♂ ad. sk.	Assam, Nov. (*A. W. Chennell*).	Tweeddale Coll.
v'', *w''*. ♀ ad. sk.	Kamroop, Feb. (*A. W. Chennell*).	Tweeddale Coll.
x''. ♀ ad. sk.	Dibrughur, March 23 (*J. R. Cripps*).	Hume Coll.
y''. Ad. sk.	Cachar (*J. Inglis*).	Hume Coll.
z''. Ad. sk.	Sylhet, Jan. 25 (*A. O. H.*).	Hume Coll.
*a*³. ♀ ad. sk.	Manipur, Feb. 21 (*A. O. H.*).	Hume Coll.
*b*³, *c*³. Ad. sk.	Dacca.	Hume Coll.
*d*³. ♂ ad. sk.	Calcutta, Jan.	Hume Coll.
*e*³, *f*³. Ad. sk.	Maunbhoom, Feb., March (*R. C. Beavan*).	Tweeddale Coll.
*g*³. Ad. sk.	Behar.	Hodgson Coll.
*h*³. Ad. sk.	Saugor (*Hooper*).	India Museum.
*i*³, *k*³, *l*³. Ad. sk.	Kamptee.	Dr. R. B. Hinde [P.].
*m*³. ♀ ad. sk.	Mhow, Nov. 29.	Colonel Swinhoe [P.].
*n*³, *o*³. Ad. sk.	Khandeish (*Sharpe Coll.*).	Tweeddale Coll.
*p*³. ♂ ad. sk.	Nandurbar, Dec. (*J. Davidson*).	Hume Coll.
*q*³. ♂ imm. sk.	Dhulia, Sept. 12 (*J. Davidson*).	Hume Coll.
*r*³, *s*³. ♂ ad.; *t*³–*w*³. ♀ ad. sk.	Raipur, Jan.	Hume Coll.
*x*³. Ad. sk.	Matterhan, Nov.	Hume Coll.
*y*³. ♀ ad. sk.	Khandala, April 10 (*S. B. Fairbank*).	Tweeddale Coll.
*z*³. Ad. sk.	Deccan (*Sykes*).	India Museum.
*a*⁴. Ad. sk.	Madras.	Rev. H. H. Baber [P.].
*b*⁴. Ad. st.	Madras.	Rev. H. H. Baber [P.].
*c*⁴. ♀ ad. sk.	Belgaum, Aug. 8 (*E. A. Butler*).	Hume Coll.
*d*⁴. ♀ ad. sk.	Seegore, Nilghiris, Feb. 10 (*W. Davison*).	Hume Coll.
*e*⁴. ♂ ad. sk.	Nellacotta, Wynaad, March 29 (*W. Davison*).	Hume Coll.
*f*⁴. Ad. sk.	Coorg.	Tweeddale Coll.
*g*⁴. Ad. sk.	Malabar Coast.	Hume Coll.
*h*⁴, *i*⁴. Ad. sk.	Anjango, Travancore, Dec.	Hume Coll.
*k*⁴. ♀ ad. sk.	Mynall, April 15 (*F. Bourdillon*).	Hume Coll.
*l*⁴, *m*⁴. Ad. et juv. sk.	Ceylon.	Purchased.
*n*⁴. Ad. sk.	Ceylon (*Sharpe Coll.*).	Tweeddale Coll.
*o*⁴–*r*⁴. Ad. et imm. sk.	Ceylon, Dec. (*Chapman & Nevill*).	Tweeddale Coll.
*y*⁴, *z*⁴. ♂ ad. sk.	Cotta, August (*Hart*).	Hume Coll.
*a*⁵. ♂ ad. sk.	Colombo, August (*Hart*).	Hume Coll.
*b*⁵, *c*⁵. ♂ ♀ ad.	Elephant Point, Dec (*J. Armstrong*).	Hume Coll.
*d*⁵, *e*⁵, *f*⁵. Ad. et imm. sk.	Rangoon, Dec., June (*R. G. W. R.*).	Tweeddale Coll.
*g*⁵, *h*⁵. ♂ ad. et juv. sk.	Tonghoo, March, May (*R. G. W. R.*).	Tweeddale Coll.
*i*⁵–*q*⁵. Ad. et imm. sk.	Peru, Nov., Dec., Feb., May (*E. W. Oates*).	Hume Coll.

r^5, s^5. ♂ ad. sk.	Arrakan Hills, Jan. (*E. W. Oates*).	Hume Coll.
t^5. ♂ ad. sk.	Pahpoon, Jan. 12 (*W. Davison*).	Hume Coll.
u^5, v^5. ♂ ♀ ad. sk.	Kaukaryit, Nov., Jan. (*Davison & Bingham*).	Hume Coll.
w^5. ♀ ad. sk.	Thoungyah, Oct. (*J. Darling*).	Hume Coll.
x^5. ♀ ad. sk.	Wippitan, Dec. (*J. Darling*).	Hume Coll.
y^5. Ad. sk.	Thoungyeen Valley.	Major Bingham [P.].
z^5. ♂ ad. sk.	Myawadee, Jan. 18 (*W. Davison*).	Hume Coll.
a^6. ♂ ad. sk.	Meetan, Feb. (*W. Davison*).	Hume Coll.
b^6. ♂ ad. sk.	Moulmein, Dec. (*W. Davison*).	Hume Coll.
c^6. ♂ ad.; d^6–h^6. ♀ ad. sk.	Amherst, Dec., Jan. (*W. Davison*).	Hume Coll.
i^6. ♀ ad. sk.	Tavoy, March 31 (*J. Darling*).	Hume Coll.
k^6. ♀ ad. sk.	Karope, March 25 (*W. Davison*).	Hume Coll.
l^6. ♂ ad. sk.	Mergui, Nov. 8 (*W. Davison*).	Hume Coll.
m^6. ♂ ad. sk.	Pakchan, Jan. 21 (*W. Davison*).	Hume Coll.
n^6. ♂ ad. sk.	Malacca.	Wallace Coll.
o^6, p^6. Ad.; q^6. Juv. sk.	Malacca (*Dr. Maingay*).	Tweeddale Coll.
r^6, s^6. Ad. et imm. sk.	Malacca.	W. Harvey, Esq. [P.].
t^6. Ad. sk.	Malacca (*Dr. Cantor*).	India Museum.
u^6, v^6. Ad. sk.	Malacca, July, Aug. (*W. Davison*).	Hume Coll.
w^6. ♂ ad. sk.	Nealys, Oct. (*W. Davison*).	Hume Coll.
x^6, y^6. ♂ ad.: z^6, a^7. ♀ ad. sk.	Pulo Seban, Oct., Nov. (*W. Davison*).	Hume Coll.
b^7. Ad. sk.	Singapore (*Dr. A. B. Meyer*).	Tweeddale Coll.
c^7. Ad. sk.	Singapore (*W. Davison*).	Hume Coll.
d^7. Ad. sk.	Singapore Island, Dec. 11 (*W. Davison*).	Hume Coll.
e^7. Ad. sk.	Saigon, Jan.	M. E. Pierre [P.].
f^7. Ad. sk.	Cambodia.	Tweeddale Coll.
g^7. Ad. sk.	Cochin China.	M. E. Pierre [P.].
h^7. Imm. sk.	Canton.	Tweeddale Coll.
i^7, k^7, l^7. Ad.; m^7–p^7. Juv. sk.	Amoy, Oct., Nov., May, June, July (*R. Swinhoe*).	Seebohm Coll.
q^7. Juv. sk.	Takow, Formosa, June (*R. Swinhoe*; *Sharpe Coll.*).	Tweeddale Coll.

Subsp. *a*. **Halcyon saturatior.**

Halcyon smyrnensis (*nec L.*), *Beavan, Ibis*, 1867, p. 319; *Ball, J. A. S. Beng.* xli. p. 278 (1872); *id. Str. F.* i. p. 58 (1873); *Walden, Ibis*, 1873, p. 302 (S. Andamans); *Hume, Str. F.* ii. p. 167 (1874: Port Blair).

Halcyon saturatior, *Hume, Str. F.* ii. p. 531 (1874); *id. Str. F.* viii. p. 85 (1879).

Adult male. Similar to *H. smyrnensis*, but very much darker everywhere; the blue of the wings and tail richer, and the chestnut

portions of the plumage darker, being deep maroon on the breast. Total length 11 inches, culmen 2·5, wing 5·15, tail 3·3, tarsus 0·55.

Adult female. Similar to the male. Total length 10·5 inches, culmen 2·6, wing 4·8, tail 3·1, tarsus 0·55.

Hab. Andamans and Nicobars.

a. ♀ ad. sk.	S. Andamans, May 4 (*W. Davison*).	Hume Coll.
b–h. Ad. sk.	Port Blair, Mar. (*W. D.*).	Hume Coll. (Types of species.)
i–k. Ad. sk.	Aberdeen, Nov., Dec. (*De Roepstorff*).	Hume Coll.
l, m, n. ♂ ad.; *o.* ♀ ad. sk.	Port Mouat, April (*W. D.*).	Hume Coll.
p. ♂ ad. sk.	Haddo, Dec. 28 (*W. D.*).	Hume Coll.
q. ♂ ad. sk.	Macpherson Strait, March 7 (*W. D.*)	Hume Coll.
r, s. ♂ ad.; *t.* ♀ ad. sk.	Hopetown, Dec. 13 (*W. D.*).	Hume Coll.
u. Ad. sk.	Mount Harriet, March 28 (*W. D.*).	Hume Coll.
v. Imm. sk.	S. Andamans, June (*R. C. Beavan*).	Tweeddale Coll.
w, x. Ad. sk.	S. Andamans, Dec., Jan. (*R. G. W. R.*).	Tweeddale Coll.
y. Ad. sk.	Nicobars (*R. J. Wimberley*).	Tweeddale Coll.

4. Halcyon gularis.

Le Martin-pescheur bleu de Madagascar, *Briss. Orn.* iv. p. 496, pl. xxxviii. fig. 2 (1760).

Grand Martin-Pêcheur de Madagascar, *Daubent. Pl. Enl.* viii. pl. 232.

Alcedo smyrnensis, var. *β*, *Gm. Syst. Nat.* i. p. 456 (1788).

Alcedo gularis, *Kuhl, Buffon & Daubent. Fig. Av. Col. Nom. Syst.* p. 4 (1820).

Alcedo rufirostris, *Küttl. Kupf. Vög.* p. 10, Taf. 14. fig. 2 (1832); *Meyen, Beitr.* p. 94 (1834).

Alcedo melanoptera (*nec Horsf.*), *Temm. Tabl. Méth.* p. 75 (1836).

Halcyon ruficollis, *Swains. Class. B.* ii. p. 335 (1837).

Halcyon smyrnensis, var. albogularis, *Blyth, J. A. S. Beng.* xii. p. 99 (1843), xiii. p. 394 (1884).

Halcyon gularis, *Gray, Gen. B.* i. p. 79 (1846); *Kaup, Fam. Eisv.* p. 8 (1848); *Bp. Consp.* i. p. 155 (1850); *Gould, B. Asia*, i. pl. 44 (1861); *Gray, Hand-l. B.* i. p. 91, no. 1095 (1869); *Sharpe, Monogr. Alced.* p. 165, pl. 60 (1870); *Wald. & Layard, Ibis*, 1872, pp. 96, 97 (Negros); *Sharpe, Trans. Linn. Soc.* (2) i. p. 317 (1876); *Steere, List Birds & Mamm. Steere Exped. Philipp.* p. 11 (1890: Guimaras, Samar, Masbate, Marinduque, Mindoro).

Entomothera gularis, *Reichenb. Handb., Alced.* i. p. 13, Taf. 40. fig. 3082 (1851).

Entomobia gularis, *Cab. Mus. Hein.* Th. ii. p. 155 (1860); *Wald. Tr. Z. S.* ix. p. 154 (1875); *Tweedd. P. Z. S.* 1877, p. 538 (Mindanao), p. 541 (Panay), p. 690 (Luzon), p. 758 (Cebu), p. 823 (N. Mindanao); *id. P. Z. S.* 1878, p. 282 (Negros), p. 34 (S. Leyte), p. 379 (Panaon), p. 943 (Zamboanga).

Alcedo fusca (*nec Bodd.*), *Martens, J. f. O.* 1866, p. 16; *id. Preuss. Exped. Ost-Asien*, p. 189 (1867).

Dacelo gularis, *Schl. Mus. Pays-Bas, Revue* Alced. p. 19 (1874).

Adult male. Similar to *H. smyrnensis*, but easily distinguished by the white being restricted to the upper throat, by the richer blue and maroon colours of the plumage, and by the whole of the wing-coverts being black: "bill and legs coral-red: iris dark brown" (*A. H. Everett*). Total length 10 inches, culmen 2·5, wing 4·85, tail 3·1, tarsus 0·55.

Adult female. Similar in colour to the male. Total length 10 inches, culmen 2·35, wing 4·9, tail 3·2, tarsus 0·55.

Hab. Philippine Islands.

a, *b*. Ad. sk.	Philippine Islands (*Sharpe Coll.*).	Tweeddale Coll.
c. Ad. sk.	Manila, Luzon.	Gould Coll.
d. Ad. sk.	Manila (*Maitland-Heriot*).	Tweeddale Coll.
e, *f*. Ad. sk.	San Mateo, Luzon, Jan. (*A. Everett*).	Tweeddale Coll.
g. ♂ ad. sk.	Monte Alban, Feb. (*A. Everett*).	Tweeddale Coll.
h, *i*. ♂ ♀ ad. sk.	Cebu, April (*A. Everett*).	Tweeddale Coll.
k. ♀ ad. sk.	Cebu, April (*Dr. A. B. Meyer*).	Tweeddale Coll.
l, *m*. ♂ ad.; *n*. ♀ ad. sk.	Negros, Jan., March (*L. C. Layard*).	Tweeddale Coll.
o. Ad. sk.	San Bernardino, Negros, Jan.	Prof. Steere [C.].
p. ♀ ad. sk.	Sibulan, Negros, March 9.	E. L. Moseley, Esq. [C.].
q. Ad. sk.	Valencia, Negros, Aug. (*A. Everett*).	Tweeddale Coll.
r, *s*. ♂ ♀ ad. sk.	Ilo-Ilo, Panay.	Voy. H.M.S. 'Challenger.'
t, *u*. ♂ ♀ ad. sk.	Zamboanga, Mindanao.	Voy. H.M.S. 'Challenger.'
v. Ad. sk.	Zamboanga, Mindanao (*A. Everett*).	Tweeddale Coll.
w. ♀ ad. sk.	Panaon, Oct. (*A. Everett*).	Tweeddale Coll.
x, *y*. ♂ ♀ ad. sk.	Surigao, May (*A. Everett*).	Tweeddale Coll.

5. Halcyon cyaniventris.

Alcedo cyanoventris, *Vieill. N. Dict. d'Hist. Nat.* xix. p. 412 (1818).

Alcedo melanoptera, *Horsf. Trans. Linn. Soc.* xiii. p. 174 (1821).

Alcedo omnicolor, *Temm. Pl. Col.* iv. pl. 135 (1823, *ex Reinw. MSS.*).

Halcyon melanopterus, *Steph. in Shaw's Gen. Zool.* xiii. p. 100 (1826); *Gray, Gen. B.* i. p. 79 (1846); *id. List Fissir. Brit. Mus.* p. 54 (1848); *Horsf. & Moore, Cat. B. Mus. E.I. Co.* i. p. 127 (1854).

Dacelo omnicolor, *Less. Traité*, p. 247 (1831).

Halcyon omnicolor, *Swains. Classif. B.* ii. p. 335 (1837); *Bp. Consp.* i. p. 155 (1850); *Gould, B. Asia*, i. pl. 47 (1860).

Halcyon multicolor, *Kaup, Fam. Eisv.* p. 8 (1848).

Entomothera melanoptera, *Reichenb. Handb., Alced.* p. 14, Taf. 404. fig. 3087 (1851).

Halcyon cyaniventris, *Cass. Cat. Halc. Philad. Mus.* p. 6 (1852); *Gray, Hand-l. B.* i. p. 91, no. 1098 (1869); *Sharpe, Monogr. Alced.* p. 167, pl. 61 (1870); *Nicholson, Ibis*, 1881, p. 143 (Java).

Entomobia cyaniventris, *Cab. & Heine, Mus. Hein.* Th. ii. p. 154 (1860).

Dacelo melanoptera, *Schl. Mus. Pays-Bas*, Alced. p. 27 (1863); *id. Vog. Nederl. Ind.* pp. 22, 55, pl. ix. figs. 3, 4 (1864).
Dacelo cyaniventris, *Schl. Mus. Pays-Bas, Revue* Alced. p. 18 (1874).

Adult. General colour above brilliant blue, from the mantle and scapulars to the upper tail-coverts; wing-coverts black, those near the point of the carpal band washed with blue; bastard-wing and primary-coverts bright cobalt-blue, as also the outer aspect of the quills; the primaries blackish at the ends, with the inner web white for nearly its whole extent; the innermost secondaries deeper blue like the back; tail-feathers bright cobalt-blue with blackish shafts; crown of head, sides of face, and ear-coverts black; cheeks, throat, fore neck, and sides of neck deep maroon-chestnut, extending in a collar round the hind neck, where it is washed with blue; chin hoary white; remainder of under surface of body deep rich blue, a little more purplish than the blue of the back; thighs black; under tail-coverts blue, slightly washed with rufous; axillaries and under wing-coverts black; edge of wing blue; quills black below, with the basal area of the quills white. Total length 10 inches, culmen 2·4, wing 4·55, tail 2·9, tarsus 0·6.

Young. Everywhere much duller in colour than the adult; throat white; sides of face and crown dusky black, extending on to the hind neck and followed by a broad collar of brick-red; chest rufous with a slight purplish lustre; remainder of under surface dull purple with white bases to the breast-feathers; the abdomen and flanks dull purplish blue.

Hab. Java.

a. Ad. sk.	Java.	Gould Coll.
b, c, d. Ad. sk.	Java (*Sharpe Coll.*).	Tweeddale Coll.
e. Ad. sk.	Java (*Wallace*: *Sharpe Coll.*)	Tweeddale Coll.
f. Ad. st.	Java.	Purchased.
g. Juv. sk.		
h. ♀ ad. sk.	E. Java.	Wallace Coll.
i. Ad. st.	Java.	India Museum.
k. Ad. st.	Java.	(Type of *H. omnicolor*.) Laugier Coll.

6. Halcyon pileatus.

Martin-pêcheur de la Chine, *Daubent. Pl. Enl.* vii. pl. 673.
Le Martin-pêcheur à coiffe noir, *Buff. Hist. Nat. Ois.* vii. p. 189 (1780).
Black-capped Kingfisher, *Lath. Gen. Syn.* i. pt. 2, p. 624 (1782).
Alcedo pileata, *Bodd. Tabl. Pl. Enl.* p. 41 (1783).
Alcedo atricapilla, *Gm. Syst. Nat.* i. p. 453 (1788); *Lath. Ind. Orn.* i. p. 251 (1790); *Raffl. Trans. Linn. Soc.* xiii. p. 293 (1820).
Halcyon atricapilla, *Vig. Mem. Raffl.* p. 655 (1830); *Blyth, Cat. B. Mus. As. Soc.* p. 47 (1849); *Bp. Consp.* i. p. 155 (1850); *id. Consp. Volucr. Anis.* p. 9 (1854); *Horsf. & Moore, Cat. B. Mus. E.I. Co.* i. p. 124 (1854); *Jerd. B. Ind.* i. p. 226 (1862); *Stoliczka, J. A. S. Beng.* xxxix. p. 296 (1870); *Hume, Ibis*, 1870, p. 438 (Sunderbunds); *Blanf. t. c.* p. 465 (Irawady Delta); *Gould, B. Asia*, i. pl. 45 (1860); *Pelz. Reis. Novara, Vög.* p. 49 (1865);

Ball, Str. F. i. p. 58 (1873: Andamans); *Hume, Str. F.* ii. p. 168 (1874: Nicobars); *id. Str. F.* iv. p. 287 (1876: Andamans).

Alcedo brama, *Less. Cent. Zool.* pl. 8 (1830).

Dacelo atricapilla, *Less. Traité*, p. 246 (1831).

Alcedo puella, *Von Kreling, teste Reichenb. J. f. O.* 1854, p. 149.

Halcyon pileata, *Gray, Gen. B.* i. p. 79 (1846); *id. List Fissir.* p. 54 (1848); *Cass. Cat. Halc. Phil. Mus.* p. 5 (1852); *Sharpe, Monogr. Alced.* p. 169, pl. 62 (1868); *Gray, Hand-l. B.* i. p. 91, no. 1097 (1869); *Wald. Ibis*, 1871, p. 165; *Swinh. Ibis*, 1870, p. 93 (Hainan); *id. P. Z. S.* 1871, p. 347; *Holdsw. P. Z. S.* 1872, p. 424 (Ceylon); *Hume, Str. F.* ii. p. 470 (1874), iii. p. 51 (1875: Thayetmyo); *Armstr. Str. F.* iv. p. 306 (Irawady Delta); *Sharpe, P. Z. S.* 1875, p. 101 (Labuan); *Blyth & Wald. B. Burm.* p. 70 (1875); *Sharpe, Ibis*, 1876, p. 33 (Sibu); *Tweedd. Ibis*, 1877, p. 296 (Lampong); *Wardlaw Ramsay, t. c.* p. 456; *Hume & Davison, Str. F.* vi. pp. 74, 499 (1878: Tenasserim); *Ball, Str. F.* vii. p. 235 (1878); *Sharpe, P. Z. S.* 1879, p. 331 (Labuan); *id. Ibis*, 1879, p. 249 (Brunei); *Legge, B. Ceylon*, i. p. 301 (1879); *Hume, Str. F.* viii. p. 49 (Malacca), p. 85; *Bingham, t. c.* p. 193 (Thoungyeen); *Vidal, Str. F.* ix. p. 49 (1880: South Konkan); *Bingham, t. c.* p. 154; *Butler, Cat. B. S. Bomb. Pres.* p. 19 (1880); *id. Str. F.* ix. p. 382 (1881); *Kelham, Ibis*, 1881, p. 380 (Perak); *Oates, Handb. B. Brit. Burm.* ii. p. 83 (1883); *Nichols. Ibis*, 1883, p. 243 (Sumatra); *Seeb. Ibis*, 1884, p. 261 (Yang-tse-Kiang R.); *Guillem. P. Z. S.* 1885, p. 548 (N. Celebes); *Tacz. P. Z. S.* 1887, p. 600 (Corea); *Styan, Ibis*, 1887, p. 230 (Foochow); *Tacz. P. Z. S.* 1888, p. 462 (Corea); *Sharpe, Ibis*, 1888, p. 197 (Palawan); *Whitehead, Ibis*, 1890, p. 45 (Palawan); *Steere, List Birds & Mamm. Steere Exped. Philipp.* p. 11 (1890: Balabac, Basilan).

Entomothera pileata, *Reichenb. Handb., Alced.* p. 15, Taf. 401. figs. 3080–81 (1851).

Entomobia pileata, *Cab. & Heine, Mus. Hein.* Th. ii. p. 155 (1860); *Salvad. Ucc. Born.* p. 102 (1874); *Wald. Trans. Zool. Soc.* ix. p. 154 (1875); *David & Oust. Ois. Chine*, p. 75 (1877); *Meyer, Ibis*, 1879, p. 61 (Celebes); *Tacz. J. f. O.* 1881, p. 180 (Askold); *Müller, J. f. O.* 1882, p. 398 (Salanga); *Vorderm. Nat. Tijdschr. Nederl. Ind.* xlvi. p. 11 (1886); *Blasius, Ornis*, iv. p. 307 (1888: Palawan).

Dacelo pileata, *Schl. Mus. Pays-Bas*, Alced. p. 27 (1863); *id. Vog. Nederl. Ind.*, Alced. pp. 22, 54, pl. ix. fig. 2 (1864); *id. Mus. Pays-Bas, Rev.* Alced. p. 18 (1874).

Adult male. General colour above purplish blue on the mantle and scapulars, the centre of the back and rump brighter and more purplish cobalt; upper tail-coverts and tail-feathers purplish blue, the latter blackish along the inner webs and having black shafts; wing-coverts black; bastard-wing, primary-coverts, and outer aspect of quills purplish blue, the latter blackish at the ends, and with broad white bases to the inner webs; crown of head, sides of face, and ear-coverts black, as well as the base of the cheeks; round the hind neck a broad white collar; checks and throat white, extending down the centre of the breast; sides of the latter, flanks, abdomen, and under tail-coverts, under wing-coverts and axillaries rich orange-buff; quills below black, with a broad white band across the base: "bill deep red: mouth pale red: eyelids pinkish plumbeous, covered

with white feathers, except on the edges, where they are black; feet dark red, brownish in front of the tarsus; claws dark horn-colour; iris dark brown" (*E. W. Oates*). Total length 11 inches, culmen 2·4, wing 5, tail 3·4, tarsus 0·55.

Adult female. Does not differ in colour from the male. Total length 11 inches, culmen 2·4, wing 5·1, tail 3, tarsus 0·5.

Young birds have dusky blackish fringes to the feathers of the breast.

Hab. Southern India and Ceylon, Indo-Malayan countries and islands, south to Celebes, north to China and Corea.

a. ♀ ad. sk.	Malvan, S. Konkan, Jan. 18 (*G. Vidal*).	Hume Coll.
b, *c*, *d*. Ad.; *e*. Imm. sk.	Sunderbunds, Dec., Jan.	Hume Coll.
f–*l*. ♂ ad. et imm.; *m*. ♀ ad. sk.	Elephant Point, Burma, Dec., Jan. (*J. Armstrong*).	Hume Coll.
n. ♂ ad. sk.	Palow, Thayetmyo District, Sept. 21 (*E. W. O.*)	Oates Coll.
o. ♂ ad. sk.	Lower Pegu, Oct. 3 (*E. W. O.*).	Oates Coll.
p. Ad. sk.	Salt Water Creek, Irawady Delta.	W. T. Blanford, Esq. [P.].
q. ♀ imm. sk.	Kaukaryit, Tenasserim, Sept. 16 (*J. Darling*).	Hume Coll.
r. ♂ ad. sk.	Wippitan, Dec. 9 (*J. D.*).	Hume Coll.
s, *t*. ♀ ad. sk.	Thatone, Oct., Dec. (*W. Davison*).	Hume Coll.
u. ♂ ad. sk.	Karope, March 24 (*W. D.*)	Hume Coll.
v, *w*, *x*. ♂; *y*–*f'*. ♀ ad. et imm. sk.	Amherst, Dec. to March (*J. Armstrong*).	Hume Coll.
g'. ♂ imm. sk.	Moulmein, Sept. 14 (*R. C. Beavan*).	Tweeddale Coll.
h', *i'* ♀ imm. sk.	Attaran River, near Moulmein, Dec. (*W. D.*).	Hume Coll.
k', *l'*. Ad. sk.	Tavoy, April (*W. D.*).	Hume Coll.
m'. ♀ ad. sk.	Nwalabo, April 11 (*W. D.*).	Hume Coll.
n', *o'*. ♂ ♀ ad. sk.	Bopyin, Dec. 19 (*W. D.*).	Hume Coll.
p', *q'*, *r'*. ♂; *s'*–*v'*. ♀ ad. et imm. sk.	Mergui, Nov. Dec. (*W. D.*).	Hume Coll.
w', *x'*. Ad. et imm. sk.	Tenasserim River, Nov. (*W. D.*).	Hume Coll.
y', *z'*. ♂ ad.; *a''*. ♀ ad. sk.	Pabyin, Nov. 15 (*W. D.*).	Hume Coll.
b''. ♂ ad. sk.	Pakchan, Jan. 16 (*W. D.*).	Hume Coll.
c''–*f''*. ♂ ad. sk.	Bankasoon, Dec. (*W. D.*).	Hume Coll.
g'', *h''* ♂ ♀ ad. sk.	Kopah, Jan. 19 (*J. Darling*).	Hume Coll.
i'', *k''*. ♀ ad. sk.	Salang, March (*J. Darling*).	Hume Coll.
l''. Ad. sk.	Penang (*Dr. Cantor*).	India Museum.
m''. ♂ ad. sk.	Penang, Dec. 15 (*W. D.*).	Hume Coll.
n''–*s''*. ♂; *t''*, *u''*. ♀ ad. et imm. sk.	Klang, Salangore, Oct. to Feb. (*W. D.*).	Hume Coll.
v'', *w''*. Ad. sk.	Malacca (*Sharpe Coll.*).	Tweeddale Coll.
x''–*z''*. Ad. sk.	Malacca, Aug. (*W. D.*).	Hume Coll.
a^3–c^3. ♂ imm. sk.	Kuroo State, Nov., March (*W. D.*).	Hume Coll.
d^3. ♂ imm. sk.	Pulo Seban, Oct. 24 (*W. D.*).	Hume Coll.

e^3. ♂ ad. sk.	Singapore Island, Feb. 1 (*W. D.*).	Hume Coll.
f^3. ♂; g^3, h^3. ♀ ad. et imm. sk.	S. Andaman, Jan., Nov. (*W. D. & R. J. Wimberley*).	Hume Coll.
i^3–l^3. Ad. sk.	Nicobar Islands.	Tweeddale Coll.
m^3. Ad. sk.	Sumatra (*Sir S. Raffles*).	India Museum.
n^3. Ad. sk.	S.E. Sumatra (*E. C. Buxton*).	Tweeddale Coll.
o^3–r^3. Ad. et imm. sk.	Sarawak.	Rajah Brooke [P.].
s^3. Ad. st.	Sarawak.	Rajah Brooke [P.].
t^3, u^3. ♂ ad. sk.	Sarawak (*A. R. Wallace*: *Sharpe Coll.*).	Tweeddale Coll.
v^3. ♀ imm. sk.	Simunjon, Sarawak (*A. Everett*)	Salvin-Godman Coll.
w^3. Ad. sk.	Meklong, Siam.	H. C. V. Hunter, Esq. [P.].
x^3. ♂ ad. sk.	Bangkok, April 4 (*Capt. Conrad*).	R. B. Sharpe, Esq. [P.].
y^3. Imm. sk.	Cambodia (*Mouhot*).	Tweeddale Coll.
z^3, a^4. Imm. sk.	Saigon, Cochin China.	M. E. Pierre [P.].
b^4. Ad. sk.	Naochow Island, Feb. (*R. Swinhoe*).	Seebohm Coll.
c^4. ♀ ad.; d^4. Juv. sk.	Fokien, China, Jan. (*Tuckett*).	Tweeddale Coll.
e^4. Ad. sk.	Kowloon, near Hongkong.	Voy. H.M.S. 'Challenger.'
f^4. ♂ ad. sk.	Ningpo, Sept. 1 (*R. Swinhoe*).	Seebohm Coll.
g^4, h^4. Ad. st.	China.	J. R. Reeves, Esq. [P.].

7. Halcyon semicæruleus.

Martins-pescheurs du Sénégal, *Daubent. Pl. Enl.* viii. pl. 356.

Martin-pêcheur bleu et noir de Sénégal, *Buff. Hist. Nat. Ois.* vii. p. 194 (1780).

Alcedo semicærulea, *Forskål, Descr. Anim.* p. 2 (1775: Yemen); *Gm. Syst. Nat.* i. p. 457 (1788); *Rüpp. Neue Wirb.* p. 68, tab. 24. fig. 1 (1835–40).

Alcedo leucocephala, *P. L. S. Müll. Syst. Nat. Suppl.* p. 94 (1776); *Cass. Proc. Phil. Acad.* 1864, p. 243.

Crab-eating Kingfisher, var. *c*, *Lath. Gen. Syn.* i. pt. 2, p. 619 (1782).

Alcedo senegalensis, var. *d*, *Gm. Syst. Nat.* i. p. 456 (1788).

Alcedo senegalensis, var. *b*, *Bonn. et Vieill. Enc. Méth.* i. p. 283 (1823).

Halcyon swainsonii, *Smith, S. Afr. Q. Journ.* p. 143 (1836); *Layard, B. S. Afr.* p. 63 (1867).

Dacelo aetæon, *Less. Traité*, p. 247 (1831).

Halcyon rufiventer, *Swains. B. W. Afr.* ii. p. 101, pl. 12 (1837); *Bp. Consp.* i. p. 155 (1850); *Cass. Cat. Halc. Phil. Mus.* p. 9 (1852); *Reichenb. Handb., Alced.* p. 10, Taf. 402. figs. 3083–84 (1851); *Cab. & Heine, Mus. Hein.* Th. ii. p. 153 (1860).

Halcyon semicærulea, *Rüpp. Syst. Uebers.* p. 23 (1845); *Gray, List Fissir.* p. 53 (1848); *Bp. Consp.* i. p. 155 (1850); *Reichenb. Handb., Alced.* p. 11. Taf. 402. fig. 3085 (1851); *Sel. Contr. Orn.* 1852, p. 124 (Red Sea Coast); *Heugl. Syst. Uebers.* p. 18 (1856); *Hartl. Orn. W.-Afr.* p. 33 (1857); *Horsf. & Moore, Cat. B. Mus. E.I. Co.* i. p. 128 (1854); *Cab. & Heine, Mus. Hein.* Th. ii. p. 153

(1860); *Hartl. J. f. O.* 1861, p. 104; *Heugl. in Peterm. Mitth.* p. 21 (1861); *Antin. Cat. descr. Ucc.* p. 28 (1864); *Gray, Hand-l. B.* i. p. 90, no. 1083 (1869); *Blanf. Geol. & Zool. Abyss.* p. 322 (1870: Bogos); *Finsch, Trans. Z. S.* vii. p. 222 (1870: Bogos); *id. & Hartl. Vög. Ostafr.* p. 160 (1870); *Sharpe, Monogr. Alced.* p. 173, pl. 64. fig. of ad. (1870, pt.); *Sharpe, P. Z. S.* 1873, p. 712 (Mombasa); *Antin. & Salvad. Viagg. Bogos,* p. 68 (1873); *Sharpe & Bouvier, Bull. Soc. Zool. France,* ii. p. 474 (1877: Congo); *Fischer, J. f. O.* 1877, pp. 172, 180; *Cab. J. f. O.* 1878, p. 235; *Fischer & Reichen. t. c.* p. 255 (Zanzibar); *Fischer, J. f. O.* 1879, pp. 293, 303; *Hartl. Abhandl. Nat. Ver. Bremen,* vii. p. 110 (1881: Lado); *Shelley, P. Z. S.* 1881, p. 567 (Pangani); *id. Ibis,* 1882, p. 577 (Shonga); *Böhm, J. f. O.* 1883, p. 173; *Sharpe, Journ. Linn. Soc.* xvii. p. 435 (1884: Semmio); *Fischer, Zeitschr. ges. Orn.* i. p. 361 (1884); *Salvad. Ann. Mus. Civic. Genov.* (2) i. p. 113 (1884: Shoa); *Shelley, Ibis,* 1885, p. 395 (Somali); *Fischer, J. f. O.* 1885, p. 126 (Zanzibar, &c.); *Büttik. Notes Leyden Mus.* vii. p. 166 (1885: Liberia), viii. p. 249 (1886), x. p. 70 (1888); *Hartert, J. f. O.* 1886, p. 295 (Loko); *Oust. Bibl. Haut Etudes,* xxxi. art. 10, p. 4 (1886: Somali); *Reichen. J. f. O.* 1887, p. 60 (Kagehi); *id. t. c.* p. 308 (Kassongo); *Souza, Jorn. Lisb.* xii. p. 221 (1888: Quindumbo); *id. op. cit.* (2) i. p. 121 (1889: Quissangue); *Salvad. Ann. Mus. Civ. Genov.* (2) vi. p. 223 (1888: Shoa); *Shelley, Ibis,* 1888, p. 297 (Fungarthoombo).

Halcyon erythrogastra (*nec Gm.*), *Gray, Gen. B.* i. p. 79 (1846, pt.).

Cancrophaga semicærulea, *Bp. Consp. Voluer. Anis.* p. 9 (1854).

Cancrophaga rufiventris, *Bp. t. c.* p. 9 (1854).

Dacelo semicærulea, *Schl. Mus. Pays-Bas,* Alced. p. 29 (1863); *id. op. cit. Revue,* p. 19 (1874, pt.); *Heugl. Orn. N.O.-Afr.* i. p. 190 (1869: N.E. Africa up to 16°).

Halcyon leucocephala, *Gray, Hand-l. B.* i. p. 90, no. 1084 (1869).

Adult male. Mantle, back, and scapulars black, the latter with white or greyish-white bases; lower back, rump, and upper tail-coverts brilliant cobalt; wing-coverts black, the edge of the wing whitish; bastard-wing, primary-coverts, and quills brilliant cobalt, the latter black towards the ends; the primaries with the inner web for the most part white; innermost secondaries black, washed with blue; tail-feathers bright blue, with black shafts and black borders along the inner webs, the centre feathers duller; head and neck ashy whitish, the crown rather the browner of the two, with brown shaft-streaks; a faint eyebrow, sides of face, cheeks, throat, and underparts ashy white, the breast purer white; abdomen, thighs, under tail-coverts, under wing-coverts, and axillaries chestnut, with the lower primary-coverts tipped with black, forming a patch between the chestnut and the white of the lower quills: "bill and legs scarlet; iris brown" (*W. T. Blanford*). Total length 8 inches, culmen 1·75, wing 4, tail 2·4, tarsus 0·5.

Adult female. Similar to the male, but not so black, the back having a distinctly browner shade. Total length 8 inches, culmen 1·85, wing 4·1, tail 2·75, tarsus 0·4.

The chief difference observable in a series of this bird lies in the lighter or darker colour of the head. Both the latter and the hind neck are much browner in fresh moulted plumage, and these parts

become lighter with age. The sides of the face and fore neck are also dusky brown, leaving the throat pure white, as well as the lower breast. These colours, however, become bleached, like the head and neck, to ashy white.

Young birds are freckled on the fore neck and chest with grey, and have the fore neck ashy, with bars of grey across; the upper plumage, too, is brown, as in the female.

Hab. West Africa from Senegambia to the Congo and Angola; N.E. Africa and East Africa generally, extending to Arabia.

a, *b*. Ad. sk.	Senegambia.	Major Ricketts [P.].
c. Ad. sk.	Goree.	Sir E. Sabine [P.].
d. Ad sk.	Sierra Leone.	H. F. Blissett, Esq. [P.].
e. Ad. sk.	Elmina, April (*H. F. Blissett*).	Shelley Coll.
f. Ad. sk.	Gold Coast (*H. T. Ussher*).	Shelley Coll.
g. Ad. sk.	River Volta, Aug. (*H. T. Ussher*).	Sharpe Coll.
h. Juv. sk.	Lagos.	Gould Coll.
i. Ad. sk.	River Niger.	F. Nicholson, Esq. [P.].
k. ♂ ad. sk.	Shonga, R. Niger.	Forbes Coll.
l. Ad. sk.	Niam-Niam Country.	F. Bohndorff [C.].
m, *n*. ♂ ♀ ad.; *o*. Juv. sk.	Abyssinia.	Sharpe Coll.
p, *q*, *r*. Ad. sk.	Achor, Bogos-Land (*Esler*).	Sharpe and Shelley Colls.
s. ♂ ad. sk.	Waliko, Bogos, Aug. 3 (*W. Jesse*).	Tweeddale Coll.
t. ♂ ad. sk.	Ain, Bogos, July 6 (*W. J.*).	Tweeddale Coll.
u. ♂ ad. sk.	Ain, July 6 (*W. J.*).	Salvin-Godman Coll.
v. ♂ ad. sk.	Keren, July 17.	W. T. Blanford, Esq. [C.].
w. ♀ ad. sk.	Ailat, June 27.	W. T. Blanford, Esq. [C.].
x. Ad. sk.	Fazogloa.	Gould Coll.
y. Ad. sk.	Shoa (*Sir W. C. Harris*).	India Museum.
z. Ad. sk.	Mombasa (*Wakefield*).	Sharpe Coll.
a'. Ad. sk.	Lamu (*Sir J. Kirk*).	Shelley Coll.
b'. Ad. sk.	Fungarthoombo, Jan.	F. J. Jackson, Esq. [P.].
c'. ♂ ad. sk.	Doruma, Jan.	Dr. Hildebrandt [C.].
d', *e'*. Ad. sk.	Masai-Land (*J. Thompson*).	Shelley Coll.
f'. Ad. sk.	Pangani River (*Sir J. Kirk*).	Shelley Coll.
g'. Imm. sk.	Kilima-njaro.	H. C. V. Hunter, Esq. [P.].

Subsp. *a*. **Halcyon erythrogaster.**

Crab-eating Kingfisher, var. *β*, *Lath. Gen. Syn.* i. pt. 2, p. 169 (1782).

Alcedo senegalensis, var. *g*, *Gm. Syst. Nat.* i. p. 456 (1788).

Alcedo senegalensis, var. *b*, *Lath. Ind. Orn.* i. p. 249 (1790); *Bonn. et Vieill. Enc. Méth.* i. p. 283 (1823).

Halcyon erythrogastra, *Gould, P. Z. S.* 1837, p. 22; *id. Voy. 'Beagle,'*

Birds, p. 41 (1841) ; *Gray, Gen. B.* i. p. 79 (1846, pt.); *Sharpe, Ibis*, 1869, p. 282 ; *id. Monogr. Alced.* p. 171, pl. 63 (1870).
Alcedo erythrogaster, *Temm. Tabl. Méth.* p. 75 (1837).
Halcyon jagoensis, *Darwin, Voy. 'Beagle,'* i. p. 2 (1839).
Alcedo cancrophaga (*nec Lath.*), *Forst. Descr. Anim.* p. 4 (1844).
Dacelo jagoensis, *Bolle, J. f. O.* 1856, p. 23.
Halcyon rufiventris (*nec Sw.*), *Bolle, J. f. O.* 1857, p. 319 ; *Bocage, Jorn. Lisb.* i. p. 134 (1866).
Dacelo semicærulea (*nec Forst.*), *Schl. Mus. Pays-Bas*, Alced. p. 29 (1863, pt.).
Dacelo rufiventris (*nec Sw.*), *Keulem. Nat. Tijdschr. Dierk.* iii. p. 366 (1866).

Adult. Similar to *H. semicæruleus*, but larger ; bill and feet rich sealing-wax red. Total length 9 inches, culmen 1·8, wing 4, tail 2·7, tarsus 0·45.

Young. Similar to the young of *H. semicæruleus* ; bill blackish.

This is nothing but a large insular race of *H. semicæruleus*, scarcely worthy of recognition. The characters which I formerly depended upon to separate the two species, such as the whiteness of the head &c., are of no value, as is proved by the larger series of skins which I have since been able to examine.

Hab. Island of St. Jago, Cape Verde Islands.

a. Ad. sk.	S. Jago, Jan. 4 (*C. Darwin*: *Voy. H.M.S. 'Beagle'*).	Gould Coll. (Type of species.)
b, c. ♂ ♀ ad. sk.	S. Jago (*J. G. Keulemans*).	Sharpe Coll.
d. ♀ ad. sk.	S. Jago (*J. G. Keulemans*).	Tweeddale Coll.
e, f. Ad. et juv. sk.	S. Jago.	M. Bouvier [P.].
g, h. Ad. sk.	Porto Praya, S. Jago.	Voy. H.M.S. 'Challenger.'
i. Ad. sk.	Porto Praya *.	Mr. Mildmay [P.].

8. Halcyon pallidiventris.

Halcyon semicærulea (*nec Forsk.*), *Hartl. P. Z. S.* 1865, p. 88 ; *Monteiro, t. c.* p. 94 (Benguela) ; *Sharpe, Monogr. Alced.* p. 173, pl. 64, fig. juv. (1870) ; *Gurney in Anderss. B. Dam.-Ld.* p. 57 (1872 : Ondonga) ; *Sharpe, ed. Layard's B. S. Afr.* pp. 114, 807 (1875–84) ; *Bocage, Orn Angola*, p. 102 (1877) ; *Sharpe in Oates' Matabele-Ld.*, App. p. 363 (1881) ; *Shelley, Ibis*, 1882, p. 244 (Umvuli River) ; *Büttik. Notes Leyden Mus.* xi. p. 67 (1889 : Gambos and Upper Cunene).
Halcyon pallidiventris, *Cab. J. f. O.* 1880, p. 349 (Talla Magongo) ; *Bocage, Orn. Angola*, p. 538 (1881) ; *Matschie, J. f. O.* 1887, p. 151 (Qua Mpara).

Adult female. Similar to the female of *H. semicæruleus*, but with the abdomen, under tail-coverts, and under wing-coverts and axillaries orange-rufous instead of chestnut. Total length 7·2 inches, culmen 1·6, wing 4·1, tail 2·2, tarsus 0·45.

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* This is the "Port Bœsja, Western Africa," of the Museum Catalogue of 'Fissirostres,' p. 53.

Young. Differs in the same way as the young of *H. semicæruleus*: "bill orange-red, black at tip and base, feet dark purplish brown, orange at the back of the feet and soles; iris dark hazel" (*F. Oates*).

Hab. South Africa, from the Transvaal to Central East Africa, and to Benguela and Ovampo-Land on the west.

a. Imm. sk.	Geruah, Matabele-Land (*F. Oates*).	W.E.&C.G.Oates, Esqrs. [P.].
b. ♀ ad. sk.	Umvuli River, Mashona-Land, Oct. 2 (*J. S. Jameson*).	Shelley Coll.
c. ♀ ad. sk.	Potchefstroom, Transvaal, Sept. 21 (*T. Ayres*).	Gurney Coll.
d. ♀ imm. sk.	Ondonga, Ovampo-Land, Dec. 22 (*C. J. Andersson*).	Sharpe Coll.
e. Imm. sk.	Benguela.	Monteiro Coll.

9. Halcyon albiventris.

Martin-pêcheur de l'isle de Luçon, *Sonn. Voy. Nouv. Guin.* p. 65, pl. 31 (1776).

Alcedo albiventris, *Scop. Del. Flor. et Faun. Insub.* ii. p. 90 (1786).

Alcedo atricapilla, var. (*nec Gm.*), *Lath. Ind. Orn.* i. p. 252 (1790).

Dacelo striata, *Drap. Dict. Class. d'Hist. Nat.* x. p. 223 (1826); *id. Dict. Class. Sci. Nat.* vii. p. 156 (1841).

Dacelo vaillanti, *Temm. MSS. in Mus. Lugd.*

Dacelo fuscicapilla, *Lafr. Rev. et Mag. de Zool.* 1833, pl. 18.

Halcyon fuscicapilla, *Gray, Gen. B.* i. p. 79 (1846); *id. List Fissir. Brit. Mus.* p. 54 (1848); *Bp. Consp.* i. p. 154 (1850); *Cass. Cat. Halc. Philad. Mus.* p. 8 (1852); *Gurney, Ibis*, 1859, p. 243 (Natal), 1860, p. 204; *Layard, B. S. Afr.* p. 63 (1867); *Sharpe, Ibis*, 1869, p. 277; *Gray, Hand-l. B.* i. p. 91, no. 1092 (1869).

Chelicutia fuscicapilla, *Reichenb. Handb., Alced.* p. 39, Taf. 424. figs. 3152–53 (1851); *Bp. Consp. Vol. Anis.* p. 9 (1854).

Halcyon vaillanti, *Müll. J. f. O.* 1855, p. 7.

Halcyon albiventris, *Gray, Gen. B.* i. p. 79 (1846); *Finsch, J. f. O.* 1867, p. 328 (Natal); *Sharpe, Ibis*, 1869, p. 282; *Ayres, t. c.* p. 290 (Limpopo); *Sharpe, Monogr. Alced.* p. 177, pl. 65 (1870); *Buckley, Ibis*, 1874, p. 364 (Transvaal); *Shelley, Ibis*, 1875, p. 68 (Natal); *Sharpe, ed. Layard's B. S. Afr.* pp. 115, 807 (1875–84); *Barratt, Ibis*, 1876, p. 198 (Lydenburg); *Ayres, Ibis*, 1879, p. 292 (Rustenburg); *Sharpe in Oates' Matabele-Land*, App. p. 303 (1881); *Holub & Pelz. Beitr. Orn. Südafr.* p. 63 (1882); *Butler, Feilden, & Reid, Zool.* 1882, p. 207 (Ladysmith).

Alcedo fuscicapilla, *Grill, Zool. Anteckn.* pp. 11, 46 (1859: Knysna).

Pagurothera fuscicapilla, *Cab. & Heine, Mus. Hein.* Th. ii. p. 153 (1860).

Dacelo albiventris, *Schl. Mus. Pays-Bas*, Alced. p. 31 (1863); *id. Revue*, p. 21 (1874).

Adult male. Mantle, scapulars, and wing-coverts black; entire back, rump, and upper tail-coverts light cobalt; tail light greenish cobalt, with black shaft-lines and dusky margins to the feathers; bastard-wing and primary-coverts cobalt-blue, dusky at the ends; quills blackish, blue for more than the basal third, the inner web ochreous buff for the most part; secondaries almost entirely blue,

dusky at the ends; crown of head dark brown, with darker shaft-stripes; a broad line of ashy whitish from the base of the nostrils above the eye, fading off into ashy brown above the ear-coverts, the latter as well as the lores brown with darker shaft-lines; round the hind neck a broad collar of isabelline white, with dusky shaft-lines, which are more distinct on the centre of the hind neck; cheeks and sides of neck also whitish like the hind neck; throat and breast pure white; fore neck and chest pale ochreous buff, with dark brown shaft-lines to the feathers, and a patch of dark brown on each side of the upper breast; sides of body, abdomen, thighs, and under tail-coverts deep ochreous buff, the flanks streaked with dark brown; under wing-coverts, axillaries, and quill-lining brighter ochreous buff: "bill crimson, black towards the tip; feet dark red; iris dark brown" (*T. Ayres*). Total length 9 inches, culmen 2·15, wing 4·2, tail 1·8, tarsus 0·55.

Adult female. Much duller in colour than the male, the back, scapulars, and wing-coverts being brown instead of black; the blue of the back, wings, and tail being greener and less bright; the head much browner than that of the male, and the whitish parts of the hind neck and sides of neck shaded with buff or rufous-buff; the buff of the fore neck and chest and sides of body much more pronounced and more rufescent, with broad blackish-brown streaks along the centre of the feather. Total length 9 inches, culmen 2, wing 4·2, tail 2·8, tarsus 0·55.

Young. Bill black, reddish towards the base; otherwise like the adults, but the blue duller and the brown of the head darker and more uniform; the collar round the neck ashy whitish with a fulvous tinge, the sides of the neck broadly streaked with black; under surface white, streaked with blackish on the breast and sides of the body, the feathers also freckled with dusky fringes and barrings; the flanks, thighs, and under tail-coverts pale ochreous buff.

In the Transvaal from Potchefstroom to the Zambesi Region, and in Swazi-Land, is found a pale race of this species, wherein every part of the under surface is lighter than in examples from the Cape Colony. The streaks on the flanks are much narrower, and the birds are generally intermediate between *H. albiventris* and *H. orientalis*. I should have separated these birds as a subspecies of *H. albiventris* but for two reasons. One is that Andersson's Knysna specimen is as pale as any of the Transvaal birds, and secondly that the true dark-coloured Cape form extends into the Transvaal. Hence it may be inferred that the differences are due to climatic causes.

Hab. South Africa, from the Cape Colony to Natal and the Eastern Transvaal.

a, *b*. Ad. et juv. sk.	South Africa.	Sharpe Coll.
c–*h*. ♂ ♀ ad. sk.	South Africa (*E. L. Layard*: *Sharpe Coll.*).	Tweeddale Coll.
i. Juv. sk.	South Africa.	Purchased.
k. ♂ ad. sk.	Knysna, Feb. 17 (*C. J. Andersson*).	Sharpe Coll.

l. Imm. sk.	George (*H. Atmore*).	Sharpe Coll.
m, n. ♂ ♀ ad. sk.	Elands Post, S.E. Africa, June (*T. C. Atmore*).	Shelley Coll.
o. Ad. sk.	Durban, March 21 (*G. E. S.*).	Shelley Coll.
p. Ad. sk.	Pinetown, March 14 (*G. E. S.*).	Shelley Coll.
q, r. Ad. sk.	Zulu-Land (*Gordge*).	Shelley Coll.
s, t. ♂ ♀ ad. sk.	Transvaal, July (*T. E. Buckley*).	Shelley Coll.
u. ♂ ad. sk.	Transvaal (*T. Ayres*).	Shelley Coll.
v. ♂ imm. sk.	Rustenburg, Aug. 27 (*T. Ayres*).	Gurney Coll.

a. Pale race.

w, x. ♂ ♀ ad. sk.	Swazi-Land, July (*T. E. Buckley*).	Shelley Coll.
y, z, a′. ♂ ad. sk.	Transvaal (*T. Ayres*).	Sharpe Coll.
b′. ♂ ad. sk.	Crocodile River, July (*F. Oates*).	W. E. & C. G. Oates, Esqrs.
c′–f′. Ad. sk.	Makalaka Country (*Dr. Bradshaw*).	Shelley Coll.

10. Halcyon orientalis.

Halcyon orientalis, *Peters, J. f. O.* 1878, p. 134 (Mozambique); *Gray, Hand-l. B.* i. p. 91, no. 1094 (1869); *Sharpe, Monogr. Alced.* p. 181, pl. 66 (1869); *Finsch & Hartl. Vög. Ostafr.* p. 162 (1870); *Sharpe, ed. Layard's B. S. Afr.* pp. 116, 807 (1875); *id. & Bouvier, Bull. Soc. Zool. France*, i. p. 303 (1876: Landana); *Reichen. J. f. O.* 1877, p. 20 (Loango); *Fischer & Reichen. J. f. O.* 1878, p. 255; *Fischer, t. c.* p. 288; *id. J. f. O.* 1879, p. 293; *Bocage, Orn. Angola*, p. 538 (1881: Caconda); *Shelley, P. Z. S.* 1881, p. 567 (Lamo); *Gurney, Ibis*, 1881, p. 124 (Mombasa); *Shelley, P. Z. S.* 1882, p. 302 (Rovuma River); *Böhm, J. f. O.* 1883, p. 172 (Kirosa); *Fischer, Zeitschr. ges. Orn.* i. p. 361 (1884: Pangani); *Shelley, P. Z. S.* 1885, p. 223 (Kilimanjaro); *Fischer, J. f. O.* 1885, p. 126 (Osi Delta); *Matschie, J. f. O.* 1887, p. 151 (Qwa Mpasa); *Reichen. t. c.* p. 300 (Manyanga), p. 304 (Leopoldville); *Souza, Jorn. Lisb.* (2) i. p. 43 (1889: Angola); *Reichen. J. f. O.* 1889, p. 279 (Mbusini, Usegua, Quilimane).

Pagurothera orientalis, *Cab. in Von der Decken's Reis.* iii. p. 36 (1869: Mombasa); *id. J. f. O.* 1878, p. 235 (Mombasa coast); *Schalow, J. f. O.* 1883, p. 350 (Kirosa).

Adult male. Similar to *H. albiventris*, but much whiter below, with only a little tinge of pale ochreous buff on the sides of the body and under tail-coverts; stripes on the flanks and breast faintly marked or entirely absent: "bill red; feet coral-red; iris reddish brown" (*C. A. Fischer*). Total length 8 inches, culmen 1·7, wing 3·55, tail 2·4, tarsus 0·55.

Adult female. Differs from the male in the same way that the hen of *H. albiventris* differs from its male, viz. in the browner back and head, and the greener colour of the blue on the back, wings, and tail. Total length 8·5 inches, culmen 1·7, wing 3·85, tail 2·4, tarsus 0·5.

Hab. Eastern Africa, from Mombasa to the interior. Re-occurring on the West Coast in the Congo region.

a. Ad. sk.	Mombasa (*Von der Decken*).	Sharpe Coll.
b. Ad. sk.	Mombasa.	Rev. A. F. Buxton [P.].
c. ♂ ad. sk.	Mombasa, July 12 (*Dr. Fischer*).	Shelley Coll.
d, *e*. ♂ ♀ ad. sk.	Mombasa, July, Aug.	Dr. Hildebrandt [C.].
f. Ad. sk.	Lamo (*Sir J. Kirk*).	Shelley Coll.
g. ♂ ad. sk.	Kilimanjaro, 5000 feet.	H. H. Johnston, Esq. [C.].
h, *i*, *k*. Ad. sk.	Rovuma River (*J. Thomson*).	Shelley Coll.
l. ♂ ad. sk.	Landana, Lower Congo (*L. Petit*).	Shelley Coll.

11. Halcyon chelicutensis.

Alcedo chelicuti, *Stanley in Salt's Exped. Abyss.*, App. p. lvi (1834)*; *Rüpp. Neue Wirb., Vög.* p. 68 (1855).

Libyan Kingfisher, *Lath. Gen. Hist.* iv. p. 32 (1822).

Alcedo striolata, *Licht. Verz. Doubl.* p. 12 (1823).

Alcedo variegata, *Bonn. et Vieill. Enc. Méth.* i. p. 397 (1823).

Dacelo pygmæa, *Cretzschm. in Rüpp. Atlas*, tab. 28. fig. B (1826).

Halcyon chelicuti, *Hartl. Verz. Brem. Samml.* p. 13 (1844); *Rüpp. Syst. Uebers.* p. 23 (1845); *Gray, Gen. B.* i. p. 79 (1846); *Guérin & Lafr. in Ferr. & Galin. Voy. Abyss.* iii. p. 248 (1847); *Heugl. Syst. Uebers.* p. 18 (1856); *id. Ibis*, 1859, p. 329; *Scl. P. Z. S.* 1864, p. 111 (Bogue); *Gray, Hand-l. B.* i. p. 91, no. 1090 (1869); *Ayres, Ibis*, 1879, p. 293 (Rustenburg); *Pelz. Verh. z.-b. Ges. Wien*, xxxi. p. 608 (1881: Lado); *Holub & Pelz. Beitr. Orn. Südafr.* p. 63 (1882); *Tristr. Ibis*, 1889, p. 225 (Kikombo).

Halcyon striolata, *Gray, List Fissir. Brit. Mus.* p. 54 (1848); *Bp. Consp.* i. p. 154 (1850); *Cass. Cat. Halc.* p. 9 (1852); *Hartl. Orn. Westafr.* p. 31 (1857); *id. J. f. O.* 1861, p. 104; *Heugl. in Peterm. Mitth.* p. 21 (1862); *Kirk, Ibis*, 1864, p. 325 (Zambesi); *Layard, B. S. Afr.* p. 64 (1867).

Halcyon pygmæa, *Bp. Consp.* i. p. 154 (1850); *Scl. Contr. Orn.* 1852, p. 124 (Red Sea coast); *Antin. Cat. descr. Ucc.* p. 28 (1864: Gazelle River); *Hartm. J. f. O.* 1866, p. 200; *Reichen. J. f. O.* 1877, p. 20 (Loango).

Chelicutia striolata, *Reichenb. Handb., Alced.* p. 39, Taf. 424. fig. 3155 (1851); *Bp. Consp. Vol. Anis.* p. 9 (1854).

Chelicutia pygmæa, *Reichenb. Handb., Alced.* p. 38, Taf. 424. fig. 3154 (1851); *Bp. Consp. Vol. Anis.* p. 9 (1854).

Halcyon damarensis, *Strickl. Contr. Orn.* 1852, p. 153; *Chapm. Trav. S. Afr.* ii. App. p. 409 (1868); *Gray, Hand-l. B.* i. p. 91, no. 1093 (1869).

Pagurothera chelicuti, *Cab. & Heine, Mus. Hein.* Th. ii. p. 152 (1860).

Pagurothera variegata, *Cab. & Heine, t. c.* p. 152 (1860).

Dacelo chelicuti, *Schl. Mus. Pays-Bas*, Alced. p. 32 (1863); *id. Revue*, p. 21 (1874).

Dacelo striolata, *Schl. Mus. Pays-Bas*, Alced. p. 32 (1863); *id. Revue*, p. 21 (1874).

Halcyon variegata, *Hartl. P. Z. S.* 1863, p. 105 (Kazeh); *Gray, Hand-l. B* i. p. 91, no. 1091 (1869).

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* Misprinted "*Alaudo*"!

Halcyon chelicutensis, *Sharpe, P. Z. S.* 1869, p. 569; *id. Ibis*, 1869, p. 283; *Finsch & Hartl. Vög. Ostafr.* p. 163 (1873); *Sharpe, Monogr. Alced.* p. 183, pl. 67 (1870); *Gurney in Anderss. B. Dam.-Ld.* p. 57 (1862); *Sharpe, P. Z. S.* 1873, p. 712 (Mombasa); *Buckley, Ibis*, 1874, p. 365 (Transvaal); *Sharpe, ed. Layard's B. S. Afr.* pp. 117, 807 (1875–84); *Bocage, Orn. Angola*, p. 101 (1877); *Nichols. P. Z. S.* 1878, p. 354 (Dar-es-Salaam); *Cab. J. f. O.* 1875, p. 235; *Fischer & Reichen. t. c.* p. 255; *iid. J. f. O.* 1879, p. 344 (Malindi); *Sharpe in Oates' Matabele-Ld.*, App. p. 303 (1881); *Gurney, Ibis*, 1881, p. 124; *Shelley, P. Z. S.* 1881, p. 567 (Melindi, Pangani, Usambara Mts.); *id. Ibis*, 1882, p. 244 (Umvuli R.); *Böhm, J. f. O.* 1883, p. 172 (Kakoma); *Hartl. Abhandl. nat. Ver. Brem.* viii. p. 207 (1883: Wakkala); *Sharpe, Journ. Linn. Soc., Zool.* xvii. p. 435 (1884: Dem Bakir); *Fischer, Zeitschr. ges. Orn.* i. p. 364 (1884: Zanzibar, Pangani, Aruscha, Naiwascha); *id. J. f. O.* 1885, p. 126 (Wapokomo-Land); *Hartert, J. f. O.* 1886, p. 595 (Loko); *Oust. Bibl. haut. Etudes*, xxxi. art. x. p. 3 (1886: Somali); *Reichen. J. f. O.* 1887, p. 60 (Usandawi, Wembaere, Usegua); *Matschie, t. c.* p. 151 (Lualaba, Luvule); *Reichen. t. c.* p. 304 (Leopoldville); *Souza, Jorn. Lisb.* xi. pp. 83, 158 (1887); *Shelley, Ibis*, 1888, p. 297 (Tangani); *id. P. Z. S.* 1889, p. 537 (Useri River); *Reichen. J. f. O.* 1889, p. 275 (Quilimane, Mbusini, Usegua); *Souza, Jorn. Lisb.* (2) i. p. 44 (1889: Huilla).
Dacelo tschelicutensis, *Heugl. Orn. N.O.-Afr.* i. p. 192 (1869).

Adult male. Head light brown, the feathers broadly streaked down the centre with darker brown; a distinct eyebrow of sandy buff; a streak above the ear-coverts black, as also a collar round the hinder part of the head; sides of neck and a collar round the hind neck buffy white, with edges and streaks of blackish brown; mantle, scapulars, and wing-coverts brown, the latter with lighter margins, a few edged with greenish blue among the inner series of lesser coverts; entire back, rump, and upper tail-coverts light cobalt; tail-feathers greenish blue, edged with dusky blackish and with a blackish shaft; bastard-wing, primary-coverts, and quills greenish cobalt, the latter dusky blackish on the inner webs and towards the end of the feathers, with white bases; cheeks and ear-coverts ochreous buff, narrowly streaked with blackish shaft-lines; throat white; remainder of under surface of body ochreous buff, deepening on the flanks and under tail-coverts, the feathers of the fore neck and breast varied with narrow fringes and shaft-lines of black to each feather; sides of body more broadly streaked with black; under wing-coverts and axillaries white, slightly tinged with buff; base of quills also white; lower primary-coverts black, forming a patch: "bill reddish brown on the upper mandible and orange-red on the lower one; feet yellowish; iris claret-coloured" (*C. J. Andersson*). Total length 6·5 inches, culmen 1·3, wing 2·95, tail 1·7, tarsus 0·4.

Young. Similar to the adult, but more thickly marked below with dusky streaks and edgings to the feathers, these markings extending further down the breast than in the older birds. The colours are also everywhere duller.

The southern birds are the largest and also the palest in colour below, with more white edgings to the wing-coverts and a somewhat

larger white speculum at the base of the primaries. Every gradation, however, seems to take place with the northern birds, which incline to deeper ochreous buff on the under surface and are generally rather darker and brighter in colour.

Hab. The greater part of Africa.

a. Ad. sk.	Bissao, Gambia (*Beaudouin*).	Sharpe Coll.
b–d. Ad. sk.	Bathurst, Gambia (*Quin*: *Sharpe Coll.*).	Tweeddale Coll.
e. Ad. sk.	Fantee.	Sharpe Coll.
f. Ad. sk.	Accra, April (*J. Smith*).	Shelley Coll.
g–h. Ad. sk.	Lower Congo.	Commander Sperling [P.].
i. Ad. sk.	Loanda (*J. Thompson*).	Shelley Coll.
k. ♀ ad. sk.	Galungo, Loanda, Sept. 2 (*Sala*).	Sharpe Coll.
l, m. ♀ ad. sk.	Ambriz, Angola (*Monteiro*).	Sharpe Coll.
n. ♀ ad. sk.	River Quanza, Nov. (*Monteiro*).	Sharpe Coll.
o, p. ♂ ad. sk.	Capangombe, Dec. (*Anchieta*).	Sharpe and Shelley Colls.
q. ♂ ad. sk.	Elephant Vley, Damara-Land, Sept. 19 (*C. J. Andersson*).	Tweeddale Coll.
r. ♂ ad. sk.	Elephant Vley, Sept. 8 (*C. J. A.*).	Sharpe Coll.
s. ♂ ad. sk.	Hykomkap, May 18 (*C. J. A.*).	Sharpe Coll.
t, u. ♂ ad. sk.	Kurrichaine (*J. Verreaux*).	Sharpe Coll.
v, w. Ad. st.	Kurrichaine.	Sir A. Smith [C.].
x. Ad. sk.	Pretoria (*T. Pratt*).	Sharpe Coll.
y. ♂ ad. sk.	Transvaal, July 13 (*T. E. Buckley*).	Shelley Coll.
z. ♀ ad. sk.	Limpopo River (*T. Ayres*).	Sharpe Coll.
a', *b'*. ♂ ♀ ad. sk.	Limpopo River, July (*F. Oates*).	W. E. & C. G. Oates, Esqrs. [P.].
c'. ♀ ad. sk.	Rustenburg, E. Transvaal, July 27 (*T. Ayres*).	Gurney Coll.
d', *e'*. Ad.; *f'–k'*. Juv. sk.	Makalaka Country (*Dr. Bradshaw*).	Shelley Coll.
l'. Ad. sk.	Zanzibar (*Sir J. Kirk*).	Sharpe Coll.
m'. Ad. sk.	Dar-es-Salaam (*E. C. Buxton*).	Shelley Coll.
n'. Ad. sk.	Pangani River (*Sir J. Kirk*).	Shelley Coll.
o', *p'*. Ad. sk.	Melinda (*Sir J. Kirk*).	Shelley Coll.
q', *r'*. Ad. sk.	Lamu, Aug.	F. J. Jackson, Esq. [P.].
s', *t'*. Ad. sk.	Mombasa (*Rev. T. Wakefield*).	Sharpe Coll.
u'. Ad. sk.	Mombasa.	Rev. A. F. Buxton [P.].
v'. ♀ ad. sk.	Useri River, July 6.	H. C. V. Hunter, Esq. [P.].
w'. Ad. sk.	Masai-Land (*J. Thomson*).	Shelley Coll.
x'. Ad. sk.	Dembakir, Niam-Niam Country, May.	F. Bohndorff [C.].
y'. ♂ ad. sk.	Abyssinia.	Sharpe Coll.
z'. Ad. st.	Abyssinia.	Dr. Rüppell [C.].
a''–c''. Ad. sk.	Demben, Bogos-Land (*Esler*).	Shelley Coll.
d''. Ad. sk.	Senegal.	Riocour Coll.

(Type of *A. variegata*, Vieillot).

12. Halcyon irroratus.

Halcyon senegaloides (!), *Smith, S. Afr. Q. Journ.* ii. p. 144 (1834); *id. Ill. Zool. S. Afr.* pl. 63 (1840); *Gray, Gen. B.* i. p. 79 (1846); *Bp. Consp.* i. p. 155 (1850); *Cass. Cat. Halc. Phil. Mus.* p. 8 (1852); *Gurney, Ibis*, 1865, p. 265 (Natal); *Layard, B. S. Afr.* p. 63 (1867); *Gray, Hand-l. B.* i. p. 91, no. 1088 (1869); *Sharpe, Monogr. Alced.* p. 187, pl. 68 (1869); *id. ed. Layard's B. S. Afr.* p. 119 (1875); *Cab. J. f. O.* 1878, p. 235 (E. Africa); *Shelley, P. Z. S.* 1881, p. 566 (Lamo, Melindi, Pangani); *Gurney, Ibis*, 1882, p. 72 (Mombasa).

Halcyon irrorata, *Reichenb. Handb., Alced.* p. 11, Taf. 400. fig. 3078, Taf. 401. fig. 3079 (1851); *Cab. in Von der Decken's Reis.* iii. p. 36 (1868: Mozambique); *Finsch & Hartl. Vög. Ostafr.* p. 159 (1870); *Fischer & Reichen. J. f. O.* 1878, p. 255 (Mombasa); *Fischer, t. c.* p. 288; *id. & Reichen. J. f. O.* 1879, p. 343 (Malindi); *Böhm, J. f. O.* 1883, p. 172 (Zanzibar); *Fischer, Zeitschr. ges. Orn.* i. p. 361 (1884: Pangani); *id. J. f. O.* 1885, p. 126 (Little Aruscha; Osai River); *Reichen. J. f. O.* 1889, p. 275 (Quilimane).

Cancrophaga senegaloides, *Bp. Consp. Vol. Anis.* p. 9 (1854).

Halcyon senegalensis (*nec* L.), *Shelley, Ibis*, 1888, p. 297 (Manda Island).

Adult. Similar to *H. cyanoleucus*, and having a greenish-blue wash on the head, but distinguished by its entirely red bill; the under surface is white, with faint grey frecklings on the breast and sides of body: "bill scarlet; feet dull purplish red; iris dark brown" (*Sir A. Smith*). Total length 9 inches, culmen 2·05, wing 3·9, tail 2·4, tarsus 0·55.

Hab. East Africa, from Natal along the coast to the Zanzibar district.

a. Ad. sk.	Natal.	Tweeddale Coll.
b, *c.* ♂ ♀ ad.; *d.* Ad. sk.	Durban, Natal, Feb. (*Gordge*).	Shelley Coll.
e. Ad. sk.	Zambesi.	Sir John Kirk [P.].
f, *g.* Ad. sk.	Lamo (*Sir J. Kirk*).	Shelley Coll.
h, *i.* Ad. sk.	Pangani (*Sir J. Kirk*).	Shelley Coll.
k. Ad. sk.	Usambara Mountains (*Sir J. Kirk*).	Shelley Coll.
l, *m.* Ad. sk.	Melindi (*Sir J. Kirk*).	Shelley Coll.
n, *o.* ♀ ad. sk.	Manda Island.	F. J. Jackson, Esq. [P.].
p. Ad. sk.	Mombasa.	Rev. A. F. Buxton [P.].

13. Halcyon senegalensis.

Le Grand Martin Pescheur du Sénégal, *Briss. Orn.* iv. p. 494, pl. 40. fig. 1 (1760).

Alcedo senegalensis, *Linn. Syst. Nat.* i. p. 180 (1766); *Gm. Syst. Nat.* i. p. 455 (1788); *Bonn. et Vieill. Enc. Méth.* i. p. 283 (1823).

Martin-pêcheur à tête grise de Sénégal, *Daubent. Pl. Enl.* viii. pl. 594.

Le Martin pêcheur à tête grise, *Buff. Hist. Nat. Ois.* vii. p. 194 (1780).

Crab-eating Kingfisher, var. A, *Lath. Gen. Syn.* i. pt. 2, p. 618 (1782).

Dacelo senegalensis, *Less. Traité*, p. 247 (1831); *Schl. Mus. Pays-Bas*, Alced. p. 30 (1863); *id. Revue*, p. 21 (1874); *Heugl. Orn. N.O.-Afr.* i. p. 191 (1869).

Halcyon senegalensis, *Swains. B. W. Afr.* ii. p. 97 (1837); *Jard. Ann. & Mag. N. Hist.* xvii. p. 86 (1846: River Bonny); *Gray, Gen. B.* i. p. 79 (1846); *id. Cat. Fissir. Brit. Mus.* p. 53 (1848); *Guér. & Lafr. in Ferr. et Galin. Voy. Abyss.* iii. p. 248 (1847); *Bp. Consp.* i. p. 155 (1850); *Verr. Rev. et Mag. de Zool.* 1851, p. 266 (Gaboon); *Reichenb. Handb.* p. 11, Taf. 400. fig. 3077 (1851); *Cass. Cat. Halc. Phil. Mus.* p. 8 (1852); *id. Proc. Philad. Acad.* 1856, p. 320; *Hartl. Orn. W.-Arf.* p. 31 (1857); *Cass. Proc. Philad. Acad.* 1859, p. 33 (Camma River); *Heine, J. f. O.* 1860, p. 187; *Cab. & Heine, Mus. Hein.* Th. ii. p. 153 (1860); *Hartl. J. f. O.* 1861, p. 104; *id. P. Z. S.* 1863, p. 105 (Kazeh); *Scl. P. Z. S.* 1864, p. 111 (Meninga); *Antin. Cat. descr. Ucc.* p. 28 (1864); *Hartm. J. f. O.* 1866, p. 201; *Gray, Hand-l. B.* i. p. 90, no. 1081 (1869); *Sharpe, P. Z. S.* 1869, p. 568; *id. Monogr. Alced.* p. 191, pl. 70 (1870); *Finsch, Trans. Z. S.* vii. p. 221 (1870); *id. & Hartl. Vög. Ostafr.* p. 157 (1870); *Sharpe, P. Z. S.* 1870, pp. 145, 149; *id. Ibis*, 1870, p. 484 (Fantee); *id. P. Z. S.* 1871, p. 603; *Reichen. J. f. O.* 1875, pp. 14, 49 (Cameroons; Wuri); *id. J. f. O.* 1877, p. 20 (Loango); *Sharpe, ed. Layard's B. S. Afr.* pp. 121, 808 (1875–84); *Bocage, Orn. Angola*, p. 101 (1877); *Nichols. P. Z. S.* 1878, p. 131 (Abeokuta); *Oust. Nouv. Arch. Mus.* (2) ii. *Bull.* p. 79 (1879: Doumé); *Hartl. Abhandl. nat. Ver. Bremen*, vii. p. 110 (1881: Lado); *Pelz. Verh. z.-b. Ges. Wien*, xxxi. p. 608 (1881); *Shelley, Ibis*, 1883, p. 551 (Shonga); *Böhm, J. f. O.* 1883, p. 173 (habits); *Schalow, t. c.* p. 349; *Forbes Ibis*, 1883, p. 523; *Salvad. Ann. Mus. Civic. Genov.* (2) i. p. 114 (1884: Shoa); *Böhm, J. f. O.* 1885, pp. 47, 57 (Gonda); *Büttik. Notes Leyd. Mus.* vii. p. 161 (1885: Liberia), viii. p. 249 (1886), x. p. 70 (1888); *Hartert, J. f. O.* 1886, p. 595 (Loko); *Reichen. J. f. O.* 1887, p. 60 (Simiu River); *Matschie, t. c.* pp. 140, 151 (Tanganyika, Lualaba); *Reichen. t. c.* p. 300 (Manyanga), p. 307 (Kibongi); *Souza, Jorn. Lisb.* xi. p. 158 (Angola); *id. op. cit.* (2) i. p. 114 (1889: Katumbella); *Reichen. J. f. O.* 1890, p. 116 (Cameroons).

Cancrophaga senegalensis, *Bp. Consp. Vol. Anis.* p. 9 (1854).

Halcyon cancrophaga (*nec Lath.*), *Heugl. Syst. Uebers.* p. 18 (1856).

Halcyon cyanoleuca (*nec V.*), *Sharpe, Journ. Linn. Soc.* xvii. p. 435 (1884).

Adult male. Head brown, as also the mantle, but the latter a little washed with greenish blue; the back, scapulars, rump, and upper tail-coverts bright greenish cobalt; wing-coverts black; a few exterior median coverts, bastard-wing, and primary-coverts bright greenish cobalt, as well as the quills externally, the latter black towards the ends and having a white patch on the inner web; tail-feathers greenish blue with black shafts, all but the centre ones blackish along their inner web; lores blackish, surmounted by a white eyestreak, which extends from the base of the nostril to above the ear-coverts, where it becomes ashy; sides of face and ear-coverts ashy grey, finely dusted with dusky vermiculations, like the sides of the neck, breast, and sides of body, all these parts also showing a slight greenish lustre under certain lights; anterior part of cheeks, throat, abdomen, thighs, and under tail-coverts white, as also

the under wing-coverts, axillaries, and inner lining of the quills: "upper mandible and under mandible black; feet blackish; iris brown" (*E. Hartert*). Total length 8·5 inches, culmen 1·8, wing 4·1, tail 2·85, tarsus 0·5.

Adult female. Does not differ from the male in colour: "upper mandible bright red, lower mandible jet-black; feet black, soles red; iris brown" (*W. A. Forbes*). Total length 9 inches, culmen 1·85, wing 4·15, tail 2·6, tarsus 0·5.

Young. Similar to the adult, but duller in colour; the head, however, washed with greenish blue, and the sides of the face, lower throat, breast, and flanks thickly freckled with ashy cross lines, over which a greenish lustre prevails: bill entirely black, save for a reddish or yellowish tinge at the base and at the tip.

Hab. West Africa from Senegambia to Benguela, throughout the Congo region to N.E. Africa.

a. Ad.; *b*. Juv. sk.	River Gambia.	Sharpe Coll.
c. Juv. sk.	River Gambia.	Sir A. Moloney [P.].
d. Ad. sk.	Goree.	Sir E. Sabine [P.].
e, *f*. Ad.; *g*. Juv. sk.	Sierra Leone.	Sir E. Sabine [P.].
h. Ad. sk.	Ashantee.	Gould Coll.
i, *k*, *l*. Ad. sk.	Fantee (*H. T. Ussher*).	Shelley Coll.
m. Ad. sk.	Fantee (*H. T. Ussher*).	Sharpe Coll.
n. Ad. sk.	Elmina (*H. F. Blissett*).	Shelley Coll.
o, *p*. Ad. sk.	River Volta (*H. T. Ussher*).	Sharpe Coll.
q. Ad. sk.	Abeokuta.	F. Nicholson, Esq. [P.].
r. Ad. sk.	Lagos.	Sir A. Moloney [P.].
s. ♂ ad.; *t*, *u*. ♀ ad. et imm. sk.	Shonga, R. Niger (*W. A. F.*).	Forbes Coll.
v, *w*. ♂ ad. sk.	Rio del Rey, Cameroons (*H. H. Johnston*).	Shelley Coll.
x. Ad. sk.	Cameroons Mountains, Jan. 20 (*A. Crossley*).	Sharpe Coll.
y. ♂ ad. sk.	Gaboon.	Sharpe Coll.
z. Ad. sk.	Gaboon (*Du Chaillu*).	Sharpe Coll.
a'. Ad. sk.	Kabinda, Congo, Aug.	Commander Sperling [P.].
b'. Ad. sk.	Loanda (*T. Thompson*).	Shelley Coll.
c'. ♀ ad. sk.	Ambriz, Dec.	Monteiro Coll.
d', *e'*. Ad. sk.	River Quanza, April and May (*J. J. Monteiro*).	Sharpe Coll.
f'. ♀ ad. sk.	Rio Dande, July 10 (*Sala*).	Sharpe Coll.
g'. ♂ ad. sk.	Katenbella, Benguela, Nov. 30 (*Sala*).	Sharpe Coll.
h'. ♂ ad. sk.	Juku, Niam Niam, May.	F. Bohndorff [C.].
i'. Ad. sk.	White Nile (*Consul Petherick*).	Sharpe Coll.
k'. Ad. sk.	Khartoum.	Gould Coll.
l'. ♀ ad. sk.	Maragaz, Bogos, July 29 (*W. Jesse*).	Sharpe Coll.
m'. Skeleton.	Gaboon.	Eyton Coll.

Subsp. *a*. **Halcyon cyanoleucus.**

Martin pêcheur à ventre sablé, *Temm. Cat. Syst.* p. 215 (1807).

Alcedo cyanoleuca, *Vieill. N. Dict. d'Hist. Nat.* xix. p. 401 (1818: Angola); *Bonn. et Vieill. Enc. Méth.* i. p. 394 (1823).

Halcyon cyanoleuca, *Hartl. Contr. Orn.* 1849, p. 20; *id. Orn. W.-Afr.* p. 31 (1857); *Gurney, Ibis*, 1868, p. 265 (Monocusi R.); *Sharpe, P. Z. S.* 1869, p. 568 (Angola); *id. Ibis*, 1869, p. 282; *id. Monogr. Alced.* p. 189, pl. 69 (1869); *id. Ibis*, 1870, p. 484 (Fantee); *id. P. Z. S.* 1871, p. 603 (Cameroons); *Gurney in Anderss. B. Dam.-Ld.* p. 56 (1872); *Shelley & Buckley, Ibis*, 1872, p. 286 (Fantee); *Buckley, Ibis*, 1874, p. 365 (Limpopo); *Sharpe, ed. Layard's B. S. Afr.* pp. 120, 808 (1875–84); *Bocage, Orn. Angola*, p. 100 (1877); *Sharpe in Oates's Matabele-Ld.*, App. *Birds*, p. 303 (1881: Nata River); *Büttik. Notes Leyden Mus.* vii. p. 162 (1885: S. Paul's River); *id. op. cit.* xi. p. 67 (1889: Gambos); *Shelley, Ibis*, 1890, p. 167 (Aruwhimi River); *Sharpe in Jameson's Hist. Rear Column*, p. 400 (1890).

Cancrophaga cyanoleuca, *Bp. Consp. Vol. Anis.* p. 9 (1854).

Halcyon senegalensis (*nec L.*), *Mont. P. Z. S.* 1865, p. 94 (Benguela); *Gurney, Ibis*, 1865, p. 265 (Monocusi R.); *Layard, B. S. Afr.* p. 62 (1867); *Blanf. Geol. & Zool. Abyss.* p. 323 (1870); *Holub & Pelz. Beitr. Orn. Südafr.* p. 62 (1882).

Adult male. Similar to *H. senegalensis*, but having the whole head and mantle light greenish blue like the rest of the back; sides of the face also washed with the same light blue, and a faint shade of the same colour overspreading the breast, sides of body, and especially the under tail-coverts; the white eyebrow very distinct: "the upper mandible red, and the lower black; tarsi and feet black; iris dusky" (*T. Ayres*). Total length 8·5 inches, culmen 1·95, wing 4·6, tail 2·5, tarsus 0·5.

The distinctness of this species from *H. senegalensis* still remains one of those points on which I am not satisfied. In specimens from Gaboon and the adjoining countries, such as the Niger district, as far as Lagos, and probably Fantee, the crown in *H. senegalensis* is very much darker brown than in specimens from other parts of Africa. Sometimes the head of *H. senegalensis* is very pale ashy brown, and it is difficult to separate these examples from *H. cyanoleucus*; while the fact that both forms occur side by side over nearly the whole extent of Africa, is another puzzling factor in the question. I have not been able, however, to determine that *H. cyanoleucus* can be considered a stage of plumage of *H. senegalensis*, or *vice versâ*; and it must also be borne in mind that *only H. cyanoleucus* occurs in the southern part of the Ethiopian region, *H. senegalensis* not occurring below Benguela.

Hab. The greater part of Africa.

a. Ad. sk.	Ashantee.	Godfrey Lagden, Esq. [P.].
b, *c*. Ad. sk.	Gold Coast (*Aubinn*).	Shelley Coll.
d. Ad. sk.	Denkera, Jan. (*Blissett*).	Sharpe Coll.
e. Ad. sk.	Ancobra River.	Sir Richard Burton and Commander Cameron [P.].

f. Ad. sk.	Abrobonko, Jan. 30 (*G. E. S.*).	Shelley Coll.
g. Ad. sk.	Accra (*Haynes*).	Sharpe Coll.
h. Ad. sk.	River Volta (*H. T. Ussher*).	Shelley Coll.
i. Ad. sk.	Cameroons Mountains, Jan. 26 (*Crossley*).	Sharpe Coll.
k. Ad. sk.	Gaboon (*Verreaux*).	Sharpe Coll.
l. Ad. sk.	Benguela.	Monteiro Coll.
m, n. ♂ ad.; *o.* Imm. sk.	Ondonga, Ovampo-Land, Dec., March, April (*C. J. Andersson*).	Sharpe Coll.
p–s. ♂ ♀ ad. sk.	Limpopo River, Transvaal, Nov. (*T. E. Buckley*).	Shelley Coll.
t, u, v. ♂ ad. sk.	Nata River, Matabele-Land, Dec., May (*F. Oates*).	W. E. & C. G. Oates, Esqrs. [P.].
w. Ad. sk.	Achor, Bogos-Land (*Esler*).	Sharpe Coll.
x. ♂ ad. sk.	Anseba Valley, July 28.	W. T. Blanford, Esq. [C.].

14. Halcyon torquatus. (Plate VI. fig. 1.)

Halcyon torquata, *Swains. B. W. Afr.* ii. p. 99 (1837).
Halcyon cinereifrons (*nec V.*), *Gray, List Fissir. Brit. Mus.* p. 53 (1848); *Hartl. Orn. W.-Afr.* p. 32 (1857, pt.); *id. J. f. O.* 1861, p. 104 (pt.: Bissao).
Halcyon malimbica (*nec Shaw*), *Cass. Cat. Halc. Philad. Mus.* p. 8 (1852, pt.: Senegal).
Dacelo cinereifrons, *Schl. Mus. Pays-Bas, Revue,* Alced. p. 20 (1874: Bissao).

Adult. Entire back greenish blue from the hind neck to the upper tail-coverts; scapulars and wing-coverts black; lesser coverts on the point of the wing, bastard-wing, primary-coverts, and outer aspect of quills greenish blue, the latter blackish brown at the ends and on the inner web, with a large oblique quill-lining of white on the latter; tail-feathers greenish blue, with black shafts, and an edging of black along the inner web; entire head light brown, with a faint greenish gloss under certain lights, the forehead decidedly paler and more ashy brown, extending on to the fore part of the crown also; lores, eyelid, and a patch behind the eye black; sides of face and ear-coverts greenish blue, this colour spreading over the hinder cheeks, the throat, and chest; breast and abdomen white, as well as the thighs and under tail-coverts; the sides of the body speckled with a bluish-grey shade; under wing-coverts and axillaries white, with a black patch on the lower primary-coverts. Total length 10·5 inches, culmen 2·3, wing 4·8, tail 3·5, tarsus 0·65.

Younger birds have an ochreous-buff tinge on the breast and sides of body, and the colours are less bright. The whole bill, too, is red, with black near the base of the upper mandible, and extending about halfway up the lower one.

Hab. Senegambia.

a. Ad. sk.	Senegal (*D'Einville*).	Riocour Coll.
b. Ad. sk.	[Senegambia.]	Sharpe Coll.
c. Imm. sk.	[Senegambia.]	Sharpe Coll.

Subsp. *a*. **Halcyon forbesi.** (Plate VI. fig. 2.)

Halcyon cinereifrons (*nec V.*), *Jard. Ann. & Mag. Nat. Hist.* xvii. p. 86 (1846).

Alcedo cinereifrons (*nec V.*), *Sundev. Œfv. K. Vet.-Akad. Förh. Stockh.* 1849, p. 162 (Sierra Leone); *Hartl. Orn. W.-Afr.* p. 32 (1857, pt.).

Halcyon malimbica (*nec Shaw*), *Cass. Cat. Halc. Philad. Mus.* p. 8 (1852, pt.: Rio Boutry); *Sharpe, Ibis*, 1870, p. 484 (Fantee); *Shelley & Buckley, Ibis*, 1872, p. 286; *Shelley, Ibis*, 1883, p. 557 (Shonga); *Büttik. Notes Leyden Mus.* vii. p. 162 (1885), viii. p. 249 (1886), x. p. 70 (1888); *Hartert, J. f. O.* 1886, p. 595 (Loko).

Dacelo cinereifrons, *Schl. Mus. Pays-Bas*, Alced. p. 29 (1863, pt., Sierra Leone).

Halcyon dryas (*nec Hartl.*), *Sharpe, P. Z. S.* 1871, p. 603 (Cameroons).

Dacelo malimbica, *Schl. Mus. Pays-Bas, Revue*, Alced. p. 18 (1874).

Adult. Similar to *H. torquatus*, but always much lighter in colour, the blue more intense, and the head ashy brown, darker than in *H. torquatus*, and washed with greenish blue towards the nape: "maxilla red, black at base, mandible black; feet red; iris brown" (*W. A. Forbes*). Total length 10 inches, culmen 2·3, wing 4·4, tail 3·2, tarsus 0·6.

This is a bright-coloured race of the Senegambiam *H. torquatus*, distinguished, moreover, by having the sides of the body and under tail-coverts dusted with grey and tinged with blue.

Hab. West Africa from Sierra Leone to the Cameroons.

a. Ad. sk.	Cape Palmas.	F. Nicholson, Esq. [P.].
b. Ad. sk.	River Prah, Ashantee (*H. F. Blissett*).	Shelley Coll.
c. Ad. sk.	Assinee (*H. T. Ussher*).	Shelley Coll.
d. Ad. st.	Gold Coast.	Leyden Mus.
e. Ad.; *f*. Imm. sk.	Fantee.	Sharpe Coll.
g. Ad. sk.	Fantee (*H. T. Ussher*).	Shelley Coll.
h, *i*. Ad. sk.	Cape Coast (*T. E. Buckley*).	Shelley Coll.
k, *l*, *m*. Ad. sk.	River Bonny (*Mrs. Hyslop*).	Jardine Coll.
n. ♂ ad. sk.	Shonga, R. Niger (*W. A. F.*).	Forbes Coll.
o. Juv. sk.	Cameroons.	Sharpe Coll.
p, *q*. Ad. sk.	Cameroons Mts., Nov. 30 (*A. Crossley*).	Sharpe Coll.

Subsp. *β*. **Halcyon malimbicus.** (Plate VI. fig. 3.)

Alcedo malimbica, *Shaw, Gen. Zool.* viii. p. 66 (1811).

Alcedo cinereifrons, *Vieill. Nouv. Dict.* xix. p. 403 (1818); *id. & Oud. Gal. Ois.* i. pl. 187 (1825).

Halcyon cinereifrons, *Gray, Gen. B.* i. p. 79 (1846); *Verr. Rev. et Mag. de Zool.* 1851, p. 265 (Gaboon); *Reichenb. Handb., Alced.* p. 12, Taf. 400. fig. 3076 (1851); *Hartl. Orn. West-Afr.* p. 32 (1857, pt.); *Hartl. J. f. O.* 1861, p. 104 (Bembe); *Layard, B. S. Afr.* p. 64 (1867); *Gray, Hand-l. B.* i. p. 90, no. 1082 (1869).

Halcyon malimbica, *Cass. Cat. Halcyon. Phil. Mus.* p. 8 (1852, pt.: Natal!); *Sharpe, Ibis*, 1869, p. 282; *id. Monogr. Alced.* p. 195,

pl. 72 (1870); *id. ed. Layard's B. S. Afr.* pp. 121, 808 (1875–84) *Bocage, Orn. Angola,* p. 102 (1877); *Oust. Nouv. Arch. Mus.* (2) ii. *Bull.* p. 80 (1879: Doumé); *Sharpe, Journ. Linn. Soc., Zool.* xvii. p. 435 (1884: Niam Niam).

Cancrophaga malimbica, *Bp. Consp. Volucr. Anis.* p. 9 (1854).

Cancrophaga cinereifrons, *Bp. t. c.* p. 9 (1854).

Halcyon cyanescens, *Cab. & Reichen. J. f. O.* 1877, p. 103 (Loango).

Adult. Similar to *H. torquatus* and *H. forbesi*, but still more brilliant than the latter, and having the entire crown washed with blue, the forehead alone being dusky brown; the blue on the breast especially brilliant: upper mandible vermilion, black at the base and towards the tip; lower mandible jet-black; feet red. Total length 10 inches, culmen 2·2, wing 4·4, tail 3, tarsus 0·5.

Hab. West Africa from Gaboon to Angola, and extending to Niam-Niam.

a. Ad. sk.	Gaboon.	Purchased.
b. Ad. sk.	Gaboon.	Gould Coll.
c. Ad. sk.	Gaboon (*A. Marche*).	Shelley Coll.
d. Ad. sk.	Gaboon.	Sharpe Coll.
e. Ad. sk.	Gaboon.	Purchased.
f, g. Ad. sk.	Semmio, Niam-Niam Country, Feb., May.	F. Bohndorff [C.].
h. Ad. sk.	Bembe, Angola.	Monteiro Coll.

15. Halcyon dryas.

Halcyon dryas, *Hartl. J. f. O.* 1854, p. 2 (S. Thomas); *Müll. Beitr. Orn.* pl. 11 (1854); *Verr. Rev. et Mag. de Zool.* 1855, p. 272; *Hartl. Orn. W.-Afr.* p. 32 (1857); *Cass. Proc. Philad. Acad.* 1859, p. 34 (R. Camma); *Hartl. J. f. O.* 1861, p. 104; *Keulemans, Nat. Tijdschr.* iii. p. 376 (1866); *Dohrn, P. Z. S.* 1866, p. 325 (Prince's Isl.); *Gray, Hand-l.* i. p. 90, no. 1087 (1869); *Sharpe, Monogr. Alced.* p. 193, pl. 71 (1868).

Cancrophaga dryas, *Bp. Consp. Vol. Anis.* p. 9 (1854).

Dacelo dryas, *Schl. Mus. Pays-Bas,* Alced. p. 30 (1863); *id. Revue,* p. 20 (1874).

Adult. Similar to *H. torquatus* and its allies, but a much larger and stouter bird; the head dark brown, the green more of a verditer tint, and the whole of the abdomen, flanks, and under tail-coverts greyish with a slight green tinge. Total length 11 inches, culmen 2, wing 4·9, tail 3·5, tarsus 0·5.

Hab. West Africa, Gaboon, and the islands of the Bight of Benin.

a. Imm. st.	St. Thomas'.	Purchased.
b, c. ♂ ad.; *d.* ♂ imm. sk.	Prince's Island (*Dr. Dohrn*).	Sharpe Coll.
e. ♂ ad. sk.	Prince's Island.	Jardine Coll.
f. Ad. sk.	Prince's Island (*Ingall*).	Shelley Coll.
g. Imm. sk.	Fernando Po.	L. Fraser [C.].
h. Imm. sk.	Fernando Po (*L. Fraser*).	Gould Coll.
i. Ad. sk.	Elobé district, Gaboon.	H. T. Ansell, Esq. [P.].

16. Halcyon albicillus.

Alcedo albicilla, *Cuvier, MSS.*; *undè*
Alcedo albicilla, *Dumont, Dict. Sci. Nat.* xxix. p. 273 (1823): *Pucher. Rev. Zool.* 1853, p. 388.
Sauropatis albicilla, *Salvad. Orn. Papuasia*, i. p. 470 (1880).

Adult male. Similar to *H. saurophagus*, but having the green streak on the ear-coverts continued backwards and encircling the nape. Total length 10·3 inches, culmen 2·15, wing 4·25, tail 3·15, tarsus 0·6.

Young female. Similar to the adult, but having the wing-coverts tipped with ashy white; the collar round the nape blackish, and on the crown of the head a few dusky markings among the white feathers. Wing 4·4 inches.

Hab. Marianne Islands.

a. ♂ ad.; *b*. ♀ jun. sk. Marianne Islands (*A. Marche*). Paris Museum [P.].

17. Halcyon saurophagus.

Alcedo albicilla (*nec Cuvier*), *Less. Voy. Coquille*, i. pp. 338, 343 (1826); *Cass. U.S. Expl. Exped., Mamm. & Birds*, p. 225 (1858).
Dacelo albicilla, *Less. Traité*, p. 247 (1831); *id. Compl. Buff., Ois.* p. 654 (1838); *Schleg. Mus. Pays-Bas*, Alced. p. 42 (1863); *id. Voy. Nederl. Ind.*, Alced. pp. 32, 61, pl. 11. figs. 3, 4 (1864); *Finsch, Neu-Guinea*, p. 161 (1865); *Schleg. Mus. Pays-Bas*, Alced. *Revue*, p. 32 (1874).
Halcyon saurophaga, *Gould, P. Z. S.* 1843, p. 103; *id. Voy. H.M.S. 'Sulphur,'* p. 33, pl. 19 (1844); *Macgill. Voy. 'Rattlesnake,'* i. p. 245 (1852); *Wall. Malay Arch.* ii. p. 344 (1869); *Gray, Hand-l. B.* i. p. 93, no. 1127 (1869); *Sel. P. Z. S.* 1877, p. 554 (Duke of York Island); *Finsch. P. Z. S.* 1879, p. 10; *Sharpe, Journ. Linn. Soc.* xvi. *Zool.* p. 429 (1882: Heath Isl.); *Tristr. Ibis*, 1889, p. 557 (Louisiade Arch.); *Grant, P. Z. S.* 1887, p. 330 (Fauro), 1888, p. 193.
Halcyon albicilla (*nec Cuv.*), *Gray, Gen. B.* i. p. 79 (1846); *id. List Fissir. Brit. Mus.* p. 56 (1848); *Sel. Journ. Proc. Linn. Soc.* ii. p. 156 (1858); *Gray, P. Z. S.* 1858, p. 190; *id. Cat. Mamm. & B. New Guinea*, pp. 20, 55 (1859); *id. Cat. B. Trop. Isl. Pacific Ocean*, p. 5 (1859); *id. P. Z. S.* 1859, p. 154, 1861, p. 433; *id. Ann. & Mag. Nat. Hist.* (4) v. p. 329 (1870); *Sharpe, Monogr. Alced.* p. 197, pl. 73 (1871, pt.); *Sel. P. Z. S.* 1873, p. 3, 1877, p. 105, 1878, p. 671 (Duke of York Island); *Ramsay, Proc. Linn. Soc. N. S. W.* iii. p. 261 (1879: Coutance Island), iv. p. 97 (1879: S.E. New Guinea); *Salvad. Ibis*, 1879, p. 322; *E. L. & L. C. Layard, Ibis*, 1880, p. 298 (Duke of York Isl.); *Finsch, Ibis*, 1882, p. 134 (Rendova); *Ramsay, Proc. Linn. Soc. N. S. W.* vii. p. 20 (1883: Ugi), p. 673.
Todirhamphus saurophagus, *Bp. Consp.* i. p. 157 (1850); *Cass. Cat. Hale. Phil. Mus.* p. 11 (1852); *Bp. Consp. Volucr. Anis.* p. 9 (1854); *Cass. U.S. Expl. Exped.* p. 213 (1858); *Rosenb. Nat. Tijdschr, Nederl. Ind.* xxv. p. 230 (1863); *id. J. f. O.* 1864, p. 118.
Alcedo cyanoleuca (*nec Vieill.*), *Bp. Consp.* i. p. 157 (1850; *ex Temm. MSS. in Mus. Lugd.*); *Rosenb. Nat. Tijdschr. Nederl. Ind.* xxv. p. 231 (1863); *id. J. f. O.* 1864, p. 118.

Todirhamphus albicilla (*nec Cuv.*), *Reichenb. Handb.*, *Alced.* p. 30, Taf. 418. figs. 3134–35 (1851).

Sauropatis albicilla (*nec Cuv.*), *Cab. & Heine, Mus. Hein.* Th. ii. p. 159 (1860); *Salvad. Ann. Mus. Genov.* x. pp. 126, 305 (1877, pt.).

Sauropatis saurophaga, *Salvad. Ibis*, 1879, p. 322; *id. Orn. Papuasia*, i. p. 468 (1880); *Nehrk. J. f. O.* 1885, p. 32 (Waigiou); *Guillem. P. Z. S.* 1885, p. 568 (Weda Isl.), p. 627 (Waigiou, Mysol, Dorey); *Salvad. Agg. Orn. Papuasia*, i. p. 57 (1889).

Adult male. General colour above bright blue, rather duller on the mantle and scapulars; the back and wing-coverts of the same tint; bastard-wing, primary-coverts, and outer aspect of quills rather more purplish blue, the latter otherwise blackish; tail-feathers deep blue, blackish along the inner web, and with blackish shafts; entire under surface as well as the whole head and neck snowy white, overspreading the mantle, the feathers of which are mostly white with blue ends; from behind the eye above the ear-coverts runs a streak of blue; a loral spot and eyelid black; under wing-coverts and axillaries pure white: "feet and eyes black" (*D'Albertis*). Total length 11 inches, culmen 2·3, wing 4·9, tail 3·1, tarsus 0·7.

Adult female. Similar to the male in colour. Total length 11·5 inches, culmen 2·5, wing 5·1, tail 3·3, tarsus 0·65.

Young birds are apparently like *H. chloris*, with a green head, and it is evident that the immature birds must have green on the crown by reason of the green feathers which are sometimes seen interspersed on the white heads of the adults. In the Hamburg Museum is a specimen from the Pelew Islands, which is apparently the young of *H. saurophagus*, and is exactly like *H. chloris*, but has the wing 4·7 inches, and a large amount of white on the lores and base of forehead. I consider this to be the young of the present species with some hesitation, as it completely lacks the pale edgings to the wing-coverts which are characteristic of the immature individuals of these green Kingfishers.

Hab. Molucca Islands to New Guinea and the Papuan Islands, the Louisiades, Solomon Archipelago, and New Ireland.

a. Ad. sk.	Morty Island (*A. R. Wallace*).	Gould Coll.
b. Ad. sk.	Gilolo.	Wallace Coll.
c, d. Ad. sk.	Dorey, N. Guinea.	Wallace Coll.
e. Ad. sk.	New Guinea.	J. Gould, Esq. [P.]. (Type of species.)
f. ♀ ad. sk.	Louisiade Islands.	J. Macgillivray [C.].
g, h. Ad. sk.	Teste Island, Louisiade Group.	J. Ingram, Esq. [P.].
i. Ad. sk.	Solomon Islands.	Gould Coll.
k. ♂ ad. sk.	Wanga, S. Cristoval, Aug.	J. Brenchley, Esq. [P.].
l, m. ♂ ♀ ad. sk.	Fauro.	C. M. Woodford, Esq. [C.].
n. Ad. sk.	New Ireland.	P. L. Sclater, Esq. [P.].
o. Ad. sk.	Duke of York Island.	Rev. G. Brown [C.].

18. Halcyon admiralitatis.

Halcyon saurophaga (*nec Gould*), *Scl. P. Z. S.* 1877, p. 544; *id. Rep. Voy. H.M.S. 'Challenger,' Birds*, p. 30 (1881).

Adult male. Similar to *H. albicillus*, but instead of the snowy white of the under surface in that species, the sides of the body, flanks, and under wing-coverts are pale orange-buff; the white feathers at the sides of the upper breast have green tips, and the green streak behind the eye is wider and extends along the upper edge of thecar-coverts. Total length 10·5 inches, culmen 2·5, wing 4·75, tail 3·05, tarsus 0·65.

Hab. Admiralty Islands.

a, b. ♂ ad. sk.	Admiralty Islands.	Voy. H.M.S. 'Challenger.'	

19. Halcyon godeffroyi.

Halcyon godeffroyi, *Finsch, P. Z. S.* 1877, p. 408 (Marquesas Isl.).

Adult (type of species). Bright blue above; wing-coverts like the back; quills and tail also externally bright blue; head entirely white, as also the neck, mantle, and centre of back; lores, feathers round the eye, and ear-coverts black, washed with green, forming a collar round the hind neck; under surface of body white, with a distinct tinge of sandy buff on the flanks. Total length 8·5 inches, culmen 1·7, wing 3·75, tail 2·6, tarsus 0·6. (*Mus. Hamb.*)

Young. Also bright blue like the adult, but has the head green like the back, but the mantle yellowish white; forehead white, and the crown interspersed with several white feathers. Wing 3·85 inches. (*Mus. Hamb.*)

Hab. Marquesas Islands.

20. Halcyon albonotatus.

Halcyon albonotata, *Ramsay, Proc. Linn. Soc. N. S. W.* ix. p. 863 (1885: New Britain).

Adult male. The whole of the head rich dark blue, brighter and of an ultramarine tint over the eyebrows and on the sides of the head; from the lores and mandible across the ear-coverts and round the hind neck a narrow deep blue band, a small white spot in front of the nostrils, and a rather large semilunar white spot on the nape; the throat and all the under surface, a broad collar on the hind neck, the interscapular region, the whole of the back and rump, and upper and under tail-coverts white; wings and tail dark blue; concealed portions of the quills black, margined with white at the base; under wing-coverts white, a black spot at their tips at the base of the primaries: bill black; feet and legs blackish grey. Length 6·8 inches, wing 3·3, tail 2·1, tarsus 0·45, bill from forehead 1·4, from nostril 1·1. (*E. P. Ramsay.*)

Hab. New Britain.

21. Halcyon leucopygius.

Cyanalcyon leucopygius, *Verr. Rev. et Mag. de Zool.* 1858, p. 385; *Salvad. Ann. Mus. Civic. Genov.* x. p. 305 (1877); *id. Orn. Papuasia etc.* i. p. 456 (1880); *id. Agg. Orn. Papuasia,* i. p. 55 (1889).
Halcyon leucopygia, *Gray, Cat. B. Trop. Isl. Pacific Ocean,* p. 7 (1859); *Sclater, P. Z. S.* 1869, p. 119; *Gray, Hand-l. B.* i. p. 92, no. 1109 (1869); *Sharpe, Monogr. Alced.* p. 199, pl. 74 (1871); *Ramsay, Proc. Linn. Soc. N. S. W.* iv. p. 67 (1879); *Salvad. Ibis,* 1880, p. 127; *Ramsay, Proc. Linn. Soc. N. S. W.* vii. p. 20 (1883: Guadalcanar); *Tristr. Ibis,* 1882, p. 143; *Sharpe in Gould's B. New Guinea,* iv. pl. 55 (1884); *Grant, P. Z. S.* 1888, p. 193.
Todirhamphus leucopygius, *Sclater, P. Z. S.* 1869, p. 124.
Dacelo leucopygia, *Giebel, Thes. Orn.* ii. p. 6 (1874).

Adult male. Head, scapulars and wing-coverts, and upper part of the back rich ultramarine; a collar round the neck, the entire back except the interscapulary portion, and the under surface of the body pure white; cheeks black; upper tail-coverts ultramarine; lower part of the flanks bordering the rump and vent lilac shaded with purple; quills and tail black, washed with blue above, greyish black underneath: bill entirely black; feet olive-brown. Total length 8·2 inches, of bill from front 1·6, from gape 2·1, wing 3·3, tail 2·5, tarsus 0·5.

Adult female. Similar to the male, but having the lower back blue instead of white. Total length 7·5 inches, wing 3·3, tail 2·3, tarsus 0·5.

Hab. Solomon Islands.

a. Ad. sk.	Solomon Islands.	Maison Verreaux. (Type of species.)
b, c. Ad. sk.	Solomon Islands.	Mr. J. T. Cockerell [C.].
d. ♂ imm. sk.	Aola, Guadalcanar, May 12.	C. M. Woodford, Esq. [C.].

22. Halcyon lazuli.

Alcedo lazuli, *Temm. Pl. Col.* iv. pl. 508 (1830); *Cass. U.S. Expl. Exped.* p. 227 (1858).
Dacelo lazuli, *Less. Compl. Buff., Ois.* p. 655 (1838); *Schl. Mus. Pays-Bas,* Alced. p. 42 (1863); *id. Vog. Nederl Ind.* pp. 31, 61, pl. xii. figs. 1, 2 (1864); *Finsch, Neu-Guinea,* p. 161 (1865); *Schl. Mus. P.-B., Revue,* Alced. p. 31 (1874).
Halcyon lazuli, *Gray, Gen. B.* i. p. 79 (1846); *Cass. Cat. Halc. Philad. Mus.* p. 6 (1852); *Gray, P. Z. S.* 1860, p. 346; *id. Hand-l. B.* i. p. 92, no. 1108 (1869); *Sharpe, Monogr. Alced.* p. 203, pl. 76 (1870).
Todirhamphus lazuli, *Bp. Consp.* i. p. 157 (1850); *Reichenb. Handb., Alced.* p. 30, Taf. 416. fig. 3126 (1851).
Cyanalcyon lazuli, *Bp. Consp. Volucr. Anis.* p. 9 (1854); *Cab. & Heine, Mus. Hein.* Th. ii. p. 158 (1860); *Salvad. Ann. Mus. Genov.* x. p. 304 (1877); *id. Orn. Papuasia etc.* i. p. 461 (1880); *Blas. u. Nehrk. Verh. z.-b. Ges. Wien,* xxxii. p. 420 (1882: Amboina); *Blasius, P. Z. S.* 1882, p. 704 (Ceram); *Salvad. Agg. Orn. Papuasia,* i. p. 56 (1889).

Adult male. Similar to *H. diops*, but brighter blue above, with the white collar of the hind neck represented only by white bases to the blue feathers; a small supraloral white spot; cheeks and under surface of body white, with pink and blue reflections on the breast under certain lights; lower abdomen and under tail-coverts bright blue. Total length 8 inches, culmen 1·75, wing 3·65, tail 2·35, tarsus 0·5.

Adult female. Differs from the male in having the entire breast as well as the abdomen bright blue, leaving only the throat white. Total length 8·5 inches, culmen 1·7, wing 3·5, tail 2·25, tarsus 0·45.

Hab. Islands of Amboyna and Ceram.

a, *b*. ♂ ♀ ad. sk.	Amboyna.	Wallace Coll.
c, *d*. ♂ ♀ ad. sk.	N. Ceram.	Wallace Coll.
e. ♂ ad. sk.	N. Ceram (*A. R. Wallace*).	Gould Coll.

23. Halcyon diops.

Alcedo diops, *Temm. Pl. Col.* iv. pl. 272 (1824); *Less. Man. d'Orn.* ii. p. 93 (1828); *Cuv. Règne Anim.* i. p. 444 (1829); *Cuss. U.S. Expl. Exped.* p. 227 (1858); *Wald. Trans. Z. S.* viii. p. 44 (1872).

Halcyon diops, *Steph. in Shaw's Gen. Zool.* xiii. p. 99 (1826); *Swains. Classif. B.* ii. p. 335 (1837); *Gray, Gen. B.* i. p. 79 (1846); *Cass. Cat. Halc. Phil. Mus.* p. 6 (1852); *Gray, P. Z. S.* 1860, p. 346; *Gray, Hand-l. B.* i. p. 92, no. 1170 (1869); *Sharpe, Monogr. Alced.* p. 205, pl. 77 (1870); *Pelz. Verh. z.-b. Ges. Wien*, xxvi. p. 718 (1876); *Guillem. P. Z. S.* 1885, p. 568 (Ternate, Batchian).

Dacelo diops, *Less. Compl. Buff., Ois.* p. 625 (1838); *Schl. Mus. P.-B.* Alced. p. 41 (1863); *id. Vog. Nederl. Ind.* Alced. pp. 30, 60, pl. xii. figs. 3, 4 (1864); *Finsch, Neu-Guinea*, p. 161 (1865); *Schl. Mus. P.-B.* Alced., *Revue*, p. 30 (1874); *Rosenb. Reist. naar Geelvinkb.* p. 6 (1875).

Todirhamphus diops, *Bp. Consp.* i. p. 157 (1850); *Reichenb. Handb., Alced.* p. 29, Taf. 416. fig. 3127 (1851).

Cyanalcyon diops, *Cab. & Heine, Mus. Hein.* Th. ii. p. 158, note (1860); *Salvad. Ann. Mus. Genov.* vi. p. 764 (1875), x. p. 304 (1877); *id. P. Z. S.* 1878, p. 79; *id. Orn. Papuasia*, i. p. 462 (1880); *id. Rep. Voy. H.M.S. 'Challenger,' Birds*, p. 60 (1881); *Pleske, Bull. Acad. St. Pétersb.* xxix. p. 526 (1884: Ternate); *Salvad. Agg. Orn. Papuasia*, i. p. 56 (1889).

Adult male. General colour above bright ultramarine, the back, rump, and scapulars more of a lazuli-blue; wing-coverts ultramarine-blue; greater coverts, quills, and tail black, externally washed with blue; head dark ultramarine or black with a blue gloss; sides of head also blue-black; a large supraloral spot of white, and a half-concealed spot of white on the occiput; round the hind neck a broad white collar; cheeks and under surface of body also white; thighs black, washed with blue; under wing-coverts white, with a patch of blue on the bend of the wing. Total length 7·5 inches, culmen 1·6, wing 3·5, tail 2·2, tarsus 0·5.

Adult female. Similar in colour to the male, but has no white collar round the hind neck, which is blue like the head; across the

chest is a broad collar of bright blue; thighs black. Total length 7·7 inches, culmen 1·65, wing 3·2, tail 1·9, tarsus 0·5.

Young female. Resembles the old male, but has an orange-buff supraloral spot and an orange-buff collar round the hind neck; across the chest an indistinct collar of orange-buff.

Hab. Molucca Islands: Halmahera or Gilolo, Ternate, Batchian, Morotai, Tidore, Motir, Dammar, Obi Lattou.

a. ♂ ad.; *b, c, d.* ♀ ad. et imm. sk.	Gilolo.	Wallace Coll.
e, f. ♂ ♀ ad. sk.	Batchian.	Wallace Coll.
g. ♀ ad. sk.	Batchian.	Gould Coll.
h. ♂ ad. sk.	Ternate (*A. B. Steere*).	Hume Coll.
i, k. ♂ ad.; *l, m.* ♀ ad. et juv. sk.	Ternate.	Wallace Coll.
n. ♂ ad. sk.	Ternate.	Voy. H.M.S. 'Challenger.'
o. ♂ ad. sk.	Moluccas.	Salvin-Godman Coll.

24. Halcyon macleayi.

Halcyon macleayi, *Jard. & Selby, Ill. Orn.* pl. 101 (1825–39); *Gould, B. Austr.* ii. pl. 24 (1843); *Gray, Gen. B.* i. p. 79 (1846); *id. List Fissir. Brit. Mus.* p. 58 (1848); *Reichenb. Vög. Neuholl.* p. 34 (1850); *Cass. Cat. Halc. Philad. Mus.* p. 6 (1852); *Macgill. Voy. 'Rattlesnake,'* ii. p. 356 (1859); *Gray, P. Z. S.* 1858, p. 190; *id. Cat. Mamm. & B. New Guinea,* p. 55 (1859); *Ramsay, Ibis,* 1865, p. 84; *Diggles, Orn. Austr.* pl. 25. fig. 1 (1868); *Gray, Hand-l. B.* i. p. 92, no. 1106 (1869); *Sharpe, Monogr. Alced.* p. 207, pl. 78 (1870); *id. Journ. Linn. Soc.* xiii. p. 492 (1878), xiv. p. 686 (1879); *Ramsay, Proc. Linn. Soc. N. S. W.* i. p. 390 (1876: Port Moresby), ii. p. 179 (1878), iii. p. 261 (1879), iv. p. 97 (1879); *id. op. cit.* (2) i. p. 1097 (1886: N.W. Australia), ii. p. 166 (1887: Derby); *Cox & Hamilton, op. cit.* iv. p. 402 (1889: Mudgee district); *Ramsay, Tab. List Austr. B.* p. 3 (1888).

Halcyon incinctus, *Gould, P. Z. S.* 1837, p. 142.

Alcedo diopthalmo-rufo-ventre, *Hombr. & Jacq. Ann. Sci. Nat.* (2) xvi. p. 315 (1841).

Todirhamphus macleayi, *Bp. Consp.* i. p. 157 (1850); *Reichenb. Handb., Alced.* p. 29, Taf. 416. figs. 3124, 3125 (1851); *Rosenb. Nat. Tijdschr. Nederl. Ind.* xxv. p. 230 (1863); *id. J. f. O.* 1864, p. 118.

Cyanalcyon macleayi, *Bp. Consp. Volucr. Anis.* p. 9 (1854); *Cab. & Heine, Mus. Hein.* Th. ii. p. 158 (1860); *Gould, Handb. B. Austr.* i. p. 133 (1865); *Ramsay, P. Z. S.* 1875, p. 58; *Salvad. & D'Albert. Ann. Mus. Genov.* vii. p. 815 (1875); *Salvad. op. cit.* ix. p. 19 (1876); *Masters, Proc. Linn. Soc. N. S. W.* i. p. 47 (1876), ii. p. 270 (1878: Port Darwin); *D'Albert. Ann. Mus. Genov.* x. p. 19 (1877); *Salvad. t. c.* p. 304; *D'Albert. & Salvad. op. cit.* xiv. p. 50 (1879); *Salvad. Orn. Papuasia etc.* i. p. 465 (1880); *Ramsay, Proc. Linn. Soc. N. S. W.* ix. p. 864 (1884); *Salvad. Agg. Orn. Papuasia,* i. p. 57 (1889).

Cyanalcyon lazulinus (*nec T.*), *Bp. Consp. Vol. Anis.* p. 9 (1854); *Cab. & Heine, Mus. Hein.* Th. ii. p. 158 (1860).

Halcyon (Actenoides) jacquinoti, *Gray, Cat. B. Trop. Isl. Pacific Ocean,* p. 7 (1859, *ex H. & J.*).

Dacelo macleayi, *Schl. Mus. P.-B.* Alced. p. 41 (1863); *Finsch, Neu-Guinea*, p. 161 (1865); *Schl. Mus. P.-B.* Alced., *Revue*, p. 30 (1874).
Halcyon jacquinoti, *Hartl. & Finsch, Faun. Centralpolyn.* p. 269 (1867); *Gray, Hand-l. B.* i. p. 92, no. 1110 (1869).
Halcyon sancta (*nec V. & H.*), *Diggles, Orn. Austr.* pl. only (1868).
Dacelo lazulina, *Giebel, Thes. Orn.* ii. p. 6 (1874).

Adult male. Above bright blue, inclining to ultramarine on the mantle; scapulars and back greenish cobalt, more blue on the rump; upper tail-coverts ultramarine; tail blue-black; wing-coverts deep ultramarine; quills black, externally ultramarine, with a large white patch at the base of all but the outer primaries; head black, with a deep purplish-blue gloss; the sides of face and ear-coverts black; a large white supraloral spot; on the occiput a concealed spot of white; round the hind neck a broad white collar; cheeks and under surface of body pure white; quills dusky blackish below, white towards the base of the inner web: "bill black, the basal portion of the under mandible yellowish white; tarsi black, inner side of feet and back of tarsi ashy grey; iris very dark brown" (*J. Gould*). Total length 7 inches, culmen 1·7, wing 3·7, tail 2·3, tarsus 0·45.

Adult female. Differs from the male in wanting the white collar round the hind neck, this part being blue like the mantle. Total length 7·7 inches, culmen 1·5, wing 3·7, tail 2·3, tarsus 0·55.

Young male. Similar to the adult male, but having the white collar washed with rusty ochre, the loral spot rusty, and the under surface also washed with rusty; the blue feathers of the upper surface also with rusty margins.

Hab. Australia, islands of Torres Straits, and S.E. New Guinea.

a. Ad. sk.	Australia.	Gould Coll.
b–e. ♂ ♀ ad. sk.	Australia (*F. Strange*).	Jardine Coll.
f, g. ♂ ♀ ad. sk.	Wide Bay, Queensland, Sept., Oct.	Hume Coll.
h. ♀ ad. st.	Gould Island, Queensland.	J. B. Jukes, Esq. [P.].
i, k. ♂ ♀ ad. sk.	Queensland (*J. Weston Browne*).	F. Nicholson, Esq. [P.].
l–n. ♂ ad. et juv.; *o, p.* ♀ ad. sk.	Queensland (*J. Cockerell*: *Sharpe Coll.*).	Tweeddale Coll.
q, r. Ad. sk.	Cape York (*J. Cockerell*).	Salvin-Godman Coll.
s. ♂ ad. sk.	Cape York.	Voy. H.M.S. 'Challenger.'
t. ♂ ad. sk.	Thursday Island, August (*Dr. Coppinger*).	Voy. H.M.S. 'Alert.'
u. Ad. sk.	Port Essington.	J. B. Jukes, Esq. [P.].
v, w. ♂ ♀ ad. st.	Port Essington.	Capt. Chambers [P.].

25. Halcyon winchelli.

Halcyon winchelli, *Sharpe, Trans. Linn. Soc.* 2nd ser. i. p. 318, pl. 47 (1876: Basilan); *Tweedd. P. Z. S.* 1878, p. 944 (Zamboanga); *Steere, List Birds & Mamm. Steere Exped. Philipp.* p. 11 (1890: Basilan, Samar).

Halcyon alfredi, *Oustalet, Le Nat.* 1890, p. 62 (Tawi-Tawi Archipelago).

Adult. General colour above black, washed with purple; lower back, rump, and upper tail-coverts silvery blue, the latter inclining to purple; lores and a collar round the hind neck chestnut; crown of head deep blue, the sides of the crown brighter blue, with a broad eyebrow from the upper part of the eye produced to the nape; sides of face and ear-coverts as well as the sides of the neck black, with a slight wash of purple; wings black, with a slight shade of purple on their outer aspect; tail purplish black; cheeks and under surface of body fawn-buff, whitish on the abdomen; under wing-coverts and quills internally fawn-colour. Total length 10 inches, culmen 2·05, wing 4·1, tail 3·2, tarsus 0·55.

Dr. Oustalet has separated *H. alfredi* from *H. winchelli* on account of its white under surface. This is, however, in all probability only a sexual difference, as Mr. Everett shot both white and rufous-breasted birds at Zamboanga.

Hab. Philippine Archipelago: islands of Basilan, Samar, and Mindanao; and the Sooloo group to the Tawi-Tawi Archipelago.

a. Ad.; *b*. ♀ ad. sk. Zamboanga, April (*A. H. Everett*). Tweeddale Coll.

26. Halcyon nigrocyaneus.

Halcyon nigrocyanea, *Wall. P. Z. S.* 1862, p. 165, pl. 19; *Gray, Hand-l. B.* i. p. 93, no. 1125 (1869); *Sharpe, Monogr. Alced.* p. 201, pl. 75 (1870); *Beccari, Ann. Mus. Genov.* vii. p. 708 (1875); *Gould, B. New Guinea*, iv. pl. 57 (1880); *Guillem. P. Z. S.* 1885, p. 626.

Dacelo nigrocyanea, *Schl. Mog. Nederl. Ind.* Alced. pp. 31, 61 (1864); *Finsch, Neu-Guinea*, p. 161 (1865); *Schl. Nederl. Tijdschr. Dierk.* iii. p. 250 (1866), iv. p. 38 (1871); *id. Mus. P.-B.* Alced., *Revue*, p. 31 (1874); *Rosenb. Reist. naar Geelvinkb.* p. 75 (1875).

Cyanalcyon nigrocyanea, *Salvad. Ann. Mus. Genov.* x. pp. 127, 304 (1877); *id. Orn. Papuasia*, i. p. 457 (1880); *id. Agg.* i. p. 56 (1889).

Halcyon diopsioides, *Muschenbr. Dagboek*, pp. 144–148 (1883: Sorong).

Adult male. General colour above black; lower back and rump silvery cobalt, the upper back varied with white; the upper tail-coverts deep ultramarine; lesser and median wing-coverts bright blue; the greater coverts and quills black, externally ultramarine-blue; tail-feathers dark blue; crown of head deep blue, the sides of the crown brighter blue, meeting round the nape and forming a broad band; lores, sides of face, cheeks, ear-coverts, and sides of neck black, descending on to the sides of the upper breast; entire throat white; centre of breast deep ultramarine, followed by a white band across the lower breast; abdomen blue, becoming blackish on the lower part; flanks and sides of body black; under tail-coverts ultramarine; under wing-coverts black; edge of wing

blue; quills black below, ashy along the inner web: "feet blackish; iris dull chestnut-brown" (*D'Albertis*). Total length 8·5 inches, culmen 1·9, wing 3·75, tail 2·5, tarsus 0·6.

Adult female. Differs from the male in the colouring of the under surface, which is pure white, with a band of ultramarine across the breast; sides of body black; under tail-coverts ultramarine. Total length 8·5 inches, culmen 2, wing 3·6, tail 2·6, tarsus 0·6.

Hab. N.W. New Guinea: Salawati and Batanta.

a. ♀ ad. sk.	New Guinea.	Wallace Coll. (Type of species.)
b, c. ♂ ♀ ad. sk.	New Guinea.	Gould Coll.
d. ♂ ad. sk.	Sorong.	Purchased.
e. Juv. sk.	Salawati.	Wallace Coll.
f. ♂ juv. sk.	N.W. New Guinea, April 20 (*Bruijn*).	Leyden Museum [P.].

27. Halcyon stictolæmus.

Cyanalcyon stictolæma, *Salvad. Ann. Mus. Genov.* ix. p. 20 (1876); *id. P. Z. S.* 1877, p. 752; *id. Ann. Mus. Genov.* x. p. 10, note, p. 34 (1877); *D'Albert. & Salvad. op. cit.* xiv. p. 71 (1879); *Salvad. Orn. Papuasia*, i. p. 459 (1880).

Halcyon nigrocyanea (*nec Wall.*), *D'Albert. Ibis*, 1877, p. 360.

Cyanalcyon nigrocyanea (*nec Wall.*), *D'Albert. Ann. Mus. Genov.* x. pp. 10, 19 (1877).

Halcyon stictolæma, *Gould, B. New Guinea*, iv. pl. 58 (1880).

Adult male. General colour above black, the head deep ultramarine, the sides of the crown more brilliant ultramarine inclining to cobalt, forming an eyebrow which borders the blue crown and encircles the nape; wing-coverts ultramarine, the lesser ones slightly more brilliant; quills blackish, externally washed with dull blue; scapulars black, washed with blue at the ends; lower back cobalt, deepening into ultramarine on the long feathers of the rump; upper tail-coverts deep ultramarine; tail-feathers dark blue; lores, feathers round the eye, cheeks, ear-coverts, sides of neck, sides of breast, flanks, thighs, and under tail-coverts black, the latter tipped with ultramarine; chin black; throat ultramarine, mottled with white bases to the feathers; breast and abdomen rich ultramarine; under wing-coverts and axillaries black; edge of wing greenish blue; quills dusky blackish below, ashy along the inner web. Total length 9 inches, culmen 2·25, wing 3·25, tail 3, tarsus 0·5. (*Mus. Genov.*)

Adult female. On the upper surface entirely like the male, but differs below in having the throat and abdomen white, separated by a broad pectoral band, which is ultramarine in the middle, black at the sides; sides of body and flanks black; under wing-coverts black, with a band of white running down the middle, many of the median and greater under wing-coverts being tipped with white; under tail-coverts as in the male. (*Mus. Genov.*)

Young. Resembles the old female, but is much more dusky black, the crown being also black, with an ultramarine eyebrow; wing-coverts black, tipped with blue; lower back bright ultramarine, but not so brilliant as in the adults; sides of face and sides of body, vent, and lower abdomen dusky black; throat dull white, the feathers obscured with dusky blackish tips; centre of abdomen pale ochraceous brown, separated from the throat by a broad blackish band, the central feathers washed with blue; under tail-coverts blackish, tipped with blue. (*Mus. Genov.*)

Hab. Fly River, Southern New Guinea.

28. Halcyon quadricolor.

Cyanalcyon quadricolor, *Oustalet, Le Naturaliste,* 1880, p. 323; *Salvad. Atti R. Accad. Torino,* xvi. p. 622 (1881); *id. Ann. Mus. Genov.* xviii. p. 420 (1882); *id. Orn. Papuasia,* iii. App. p. 524 (1882).

Halcyon quadricolor, *Sharpe in Gould's B. New Guinea,* vol. iv. pl. 56 (1882).

Adult. Similar to *H. nigrocyaneus*, but with the abdomen bright cinnamon-red or chestnut; a broad pectoral band of blue, separated by a line of white from the rufous abdomen. Total length 8 inches, culmen 1·8, wing 4, tail 2·8.

Hab. Northern New Guinea.

In 1882 Mr. Keulemans made for me a sketch of the type of *Cyanalcyon quadricolor* in the Paris Museum, and I figured the species in Gould's 'Birds of New Guinea.' In colour the species resembles the young of *H. nigrocyaneus*; but the typical specimen has every appearance of being a fully adult bird. It may be, as Salvadori has remarked, that the colouring which is a sign of immaturity in *H. nigrocyaneus* is characteristic of the adult of *H. quadricolor.*

29. Halcyon pyrrhopygius.

Halcyon pyrrhopygia, *Gould, P. Z. S.* 1840, p. 113; *Gray, Gen. B.* i. p. 79 (1846); *id. List Fissir. Brit. Mus.* p. 57 (1848); *Gould, B. Austr.* fol. ii. pl. 22 (1848); *Reichenb. Vög. Neuholl.* p. 277 (1850); *Diggles, Orn. Austr.* pl. (1868); *Gray, Hand-l. B.* i. p. 92, no. 1117 (1869); *Sharpe, Monogr. Alced.* p. 211, pl. 79 (1870); *Casteln. & Ramsay, Proc. Linn. Soc. N. S. W.* i. p. 380 (1877: Gulf of Carpentaria); *Ramsay, op. cit.* ii. p. 179 (1878); *id. op. cit.* vii. p. 45 (1883: Bourke and Coban districts); *id. op. cit.* (2) i. p. 1086 (1886: N.W. Australia), ii. p. 166 (1887: Derby); *North, op. cit.* (2) iii. p. 774 (1888: Cumberland, N.S.W.); *Cox & Hamilton, op. cit.* (2) iv. p. 401 (1889: Mudgee district); *Ramsay, Tab. List Austr. B.* p. 3 (1888).

Todirhamphus pyrrhopygius, *Bp. Consp.* i. p. 157 (1850); *Reichenb. Hanab., Alced.* p. 33, Taf. 420. fig. 3141 (1851); *Cass. Cat. Halc. Philad. Mus.* p. 4 (1852); *id. U.S. Expl. Exped., Birds,* p. 218 (1858); *Gould, Handb. B. Austr.* i. p. 130 (1865); *Masters, Proc. Linn. Soc. N. S. W.* ii. p. 270 (1878: Pt. Darwin).

Cyanalcyon pyrrhopygia, *Bp. Consp. Vol. Anis.* p. 9 (1854).
Sauropatis pyrrhopygia, *Cab. & Heine, Mus. Hein.* Th. ii. p. 161 (1860).
Dacelo pyrrhopygia, *Schl. Mus. Pays-Bas*, Alced. p. 39 (1863).

Adult. General colour above green, streaked with white on the scapulars, which are white at the base or on their inner margin: entire back from the mantle downwards orange-rufous, the upper tail-coverts with greenish centres; entire wing greenish blue, brighter blue along the shoulder and on the outer aspect of the quills, the latter being otherwise dusky blackish with white inner edges; tail-feathers greenish blue, whitish towards the ends of the inner webs; the shafts of the feathers black, the outer feather externally whitish; crown of head green, streaked with white edges to the feathers, those on the occiput being white with green centres; a streak of white from the base of the nostrils extending over the eye and widening out above the ear-coverts and encircling the occiput below the long crest-feathers; a loral spot, feathers below the eyes, and ear-coverts black, joining a black collar round the hind neck, which is succeeded by a broad white collar which joins the sides of the neck: cheeks and under surface of body entirely white, with a faint tinge of buff; under wing-coverts and axillaries white, as also the quill-lining: "bill black, the base of the lower mandible flesh-white; feet dark olive-brown; iris blackish brown" (*J. Gould*). Total length 8·5 inches, culmen 1·7, wing 3·85, tail 2·7, tarsus 0·6.

Young birds are much duller in colour, are not so blue, and have dusky blackish fringes to the breast-feathers.

Hab. The whole of Australia, excepting the Western and South-western portions.

a. Ad. sk.	Namoi plains (*J. Gould*).	Jardine Coll.
b. Ad. sk.	River Darling, Oct. 4.	Capt. Sturt [C.].
c, d. Ad. st.	South Australia.	Sir George Grey [P.].
e, f. Ad. sk.	Cape York (*J. T. Cockerell*).	Salvin-Godman Coll.
g. ♂ ad. sk.	N.W. Australia.	J. R. Elsey, Esq. [P.].
h, i, k. ♂ ad. et imm.; *l*. ♀ imm. sk.	Derby, N.W. Australia (*J. H. Bowyer-Bower*).	Capt. Bowyer-Bower.

30. Halcyon cinnamominus.

Halcyon cinnamomina, *Swainson, Zool. Illustr.* ser. i. vol. ii. pl. 67 (1821); *Vig. & Horsf. Trans. Linn. Soc.* xv. p. 206 (1827); *Gould, Syn. B. Austr.* part iii. (1838); *Gray, Gen. B.* i. p. 97 (1846); *id. B. Trop. Isl. Pacific Ocean*, p. 5 (1859); *id. Hand-l. B.* i. p. 93, no. 1123 (1869); *Sharpe, Monogr. Alced.* p. 213, pl. 80 (1870); *Finsch, Journ. Mus. Godeffr.* Heft xii. p. 20 (1876).
Todirhamphus cinnamominus, *Bp. Consp.* i. p. 157 (1850); *Reichenb. Handb., Alced.* p. 32, Taf. 420. fig. 3140 (1851); *Cass. Cat. Halc. Philad. Mus.* p. 12 (1852); *id. U.S. Expl. Exped., Birds*, p. 220 (1858).
Sauropatis cinnamomina, *Cab. & Heine, Mus. Hein.* Th. ii. p. 159 (1860).

Dacelo cinnamomina, *Schl. Mus. Pays-Bas*, Alced. p. 39 (1860); *id. Revue*, Alced. p. 29 (1874).
Alcedo ruficeps, *Cuvier, MSS. in Mus. Paris*; undè
Alcedo ruficeps, *Dumont, Dict. Sci. Nat.* xxix. p. 273 (1823); *Pucher. Rev. et Mag. de Zool.* 1853, p. 367; *Hartl. J. f. O.* 1855, p. 423.
Dacelo ruficeps, *Lesson, Traité d'Orn.* p. 247 (1831).
Halcyon ruficeps, *Gray, Hand-l. B.* i. p. 93, no. 1122 (1869).

Adult (type of species). General colour above green; lower back, rump, and upper tail-coverts more blue; wings more blue than the back, the quills blackish, externally dull blue; tail-feathers blue, blackish along their inner webs and with the shafts black; crown of head and hind neck cinnamon; above the ear-coverts a streak of green; round the nape a band of black; under surface of body cinnamon, paler on the throat. Total length 9 inches, culmen 1·8, wing 3·9, tail 3·1, tarsus 0·65.

Hab. Marianne Islands.

a. Ad. sk.	[Marianne Islands.]	Linnean Society. (Type of species.)
b. Ad. sk.	[Marianne Islands.]	Zoological Society.
c. Ad. sk.	Marianne Islands.	Purchased.

Subsp. *a*. **Halcyon rufigularis.**

Halcyon cinnamomina, *Sharpe, Monogr. Alced.* pl. 80, central figure (1870).

Adult. Similar to *H. cinnamominus*, but having only the throat and chest cinnamon, as well as the thighs; the breast, abdomen, sides of body, and under tail-coverts white. Total length 9 inches, culmen 1·8, wing 4, tail 3, tarsus 0·6.

Dr. Finsch believes that the cinnamon-breasted individuals are males and the white-breasted ones are females, in which case the present form may be only the hen of *H. cinnamominus*.

Hab. Unknown.

a. Ad. sk.	Zoological Society.

Subsp. *b*. **Halcyon mediocris.**

Halcyon cinnamomina (*nec Vig.*), *Finsch, J. f. O.* 1880, p. 285 (Ponapé).

Adult. Similar to *H. cinnamominus* on the upper surface, but with black ear-coverts, forming a broad streak which is continued as a nuchal band; the collar round the hind neck and the under surface of the body are white, with a little tinge of buff on the flanks and under wing-coverts. Total length 9 inches, culmen 1·8, wing 3·9, tail 3, tarsus 0·6.

Young. Duller in colour than the adult, the mantle, back, and scapulars dusky and inclining to olive-green; the wing-coverts

edged with sandy rufous; throat and abdomen white; fore neck, breast, thighs, and under tail-coverts cinnamon; crown of head cinnamon, with the centre of the crown streaked with green, forming a patch.

Hab. Island of Ponapé.

a. Ad. sk.	[Marquesas!]	Purchased.
b. Juv. sk.	[Vanikoro!]	Purchased.
c, *d*. ♂ ad. et juv. sk.	Ponapé (*Dr. Kubary*).	Museum Godeffroy.

31. Halcyon reichenbachii.

Todirhamphus reichenbachii, *Hartl. Arch. f. Nat.* 1852, p. 21 (mus. Dresd.).

Halcyon reichenbachii, *Finsch. & Hartl. P. Z. S.* 1868, p. 4; *Gray, Hand-l. B.* i. p. 93, no. 1121 (1869); *Finsch, Journ. Mus. Godeffr.* viii. p. 11 (1875: Pelew Isl.).

Halcyon cinnamomina, pt., *Sharpe, Monogr. Alced.* p. 213 (1871).

Dacelo reichenbachii, *Schl. Mus. Pays-Bas, Revue*, Alced. p. 29 (1874).

Adult. Similar to *H. mediocris*, but much smaller, the collar round the hind neck, and the under surface of the body being white. Total length 8·5 inches, culmen 1·8, wing 3·3, tail 2·4, tarsus 0·5.

Young. Similar to the adult, and with a white collar and white under surface, but distinguished by sandy-buff margins to the wing-coverts and by green streaks on the crown.

Hab. Pelew Islands.

a, *b*. Ad. et juv. sk.	Pelew Islands.	Mr. Cohen [C.].

32. Halcyon australasiæ.

Alcedo australasiæ, *Vieill. Nouv. Dict.* xix. p. 419 (1818); *Bonn. et Vieill. Enc. Méth.* i. p. 397 (1823); *Pucher. Rev. et Mag. de Zool.* 1853, p. 389.

Halcyon coronata, *S. Müll. Verh. Land- en Volkenk.* p. 175 (1839-44); *Gray, Gen. B.* i. p. 79 (1846); *Wall. P. Z. S.* 1863, p. 484.

Todirhamphus coronatus, *Bp. Consp.* i. p. 157 (1850); *Cass. Cat. Halc. Philad. Mus.* p. 11 (1852); *Bp. Consp. Volucr. Anis.* p. 9 (1854); *Cass. U.S. Expl. Exped., Birds*, p. 218, pl. 19. fig. 2 (1858).

Paralcyon coronata, *Reichenb. Handb., Alced.* p. 35, Taf. 421. fig. 3142 (1851).

Sauropatis australasiæ, *Cab. & Heine, Mus. Hein.* Th. ii. p. 161 (1860); *Meyer, Verh. z.-b. Ges. Wien*, xxxi. p. 763 (1881: Lombock, Timor, Wetter).

Dacelo coronata, *Schl. Mus. Pays-Bas*, Alced. p. 58 (1863); *id. op. cit. Revue*, p. 30 (1874).

Halcyon australasiæ, *Gray, Hand-l. B.* i. p. 92, no. 1118 (1869); *Sharpe, Monogr. Alced.* p. 215, pl. 81 (1870).

Adult male. General colour green, more dusky on the upper mantle; lower back, rump, and upper tail-coverts brighter blue; wing-coverts greenish blue; quills black, externally ultramarine; tail deep ultramarine; crown of head green, the forehead streaked with cinnamon; lores and a very broad band over the eye, encircling the nape, bright cinnamon; eyelid blackish above, cinnamon below; ear-coverts dark green, black posteriorly, joined to a black collar which surrounds the hind neck; this is succeeded by a broad collar of cinnamon-buff; under surface of body cinnamon-buff, paler on the throat; under wing-coverts and axillaries like the breast. Total length 7·5 inches, culmen 1·5, wing 3, tail 2·2, tarsus 1.

Adult female. Similar to the male, but rather duller in colour. Total length 7·5 inches, culmen 1·55, wing 3, tail 2·1, tarsus 0·55.

Hab. Islands of Timor, Wetter, and Lombock.

a, b. ♂ ad. et imm. sk.	East Timor.	Wallace Coll.
c, d. ♂ ♀ ad. sk.	Lombock.	Wallace Coll.
e. ♂ ad. sk.	Lombock (*A. R. Wallace*).	Gould Coll.

Subsp. *a.* **Halcyon minor.**

Sauropatis australasiæ, var. minor, *Meyer, Zeitschr. ges. Orn.* i. p. 196 (1884).

Adult (type of species). Similar to *H. australasiæ*, but smaller, and with the crown dusky green, the abdomen also white like the throat; the ear-coverts also blacker than in *H. australasiæ*. Total length 6·7 inches, culmen 1·6, wing 3·1, tail 2·05, tarsus 0·5. (*Mus. Dresd.*)

Hab. Timor-laut.

33. **Halcyon sacer.**

Sacred Kingfisher, var. A, *Lath. Gen. Syn.* i. pt. 2, p. 621 (1782).
Alcedo sacra, var. A, *Gm. Syst. Nat.* i. p. 453 (1788; *ex Lath.*).
Alcedo sacra, var. B, *Lath. Ind. Orn.* i. p. 213 (1790); *Bonn. et Vieill. Enc. Méth.* i. p. 294 (1823).
Alcedo collaris, varr. 1, 2, *Forster, Descr. Anim.* p. 163 (1844).
Dacelo vitiensis, *Peale, U.S. Expl. Exped.* p. 156, pl. 144 (1848); *Hartl. Arch. f. Naturg.* p. 110.
Halcyon superciliosa, *Gray, List Fissir. Brit. Mus.* p. 56 (1848); *id. Hand-l. B.* i. p. 92, no. 1119 (1869).
Todirhamphus sacer, *Bp. Consp.* i. p. 156 (1850); *Cass. Cat. Halc. Philad. Mus.* p. 10 (1852).
Halcyon coronata (*nec Müll.*), *Gray, Cat. B. Trop. Isl. Pacific Ocean*, p. 5 (1859).
Halcyon vitiensis, *Gray, t. c.* p. 5 (1859); *id. Hand-l. B.* i. p. 93, no. 1120 (1869).
Todirhamphus vitiensis, *Cass. U.S. Expl. Exped.* pp. 195, 209, pl. 16 (1858).
Todirhamphus tuta, pt., *Cass. t. c.* pp. 192, 209, pl. 15. figs. 1, 2 (1858).

Sauropatis superciliosa, *Cab. & Heine, Mus. Hein.* Th. ii. p. 158 (1860).

Halcyon sacra, *Finsch & Hartl. Faun. Centralpolyn.* p. 32 (1867); *id. P. Z. S.* 1869, p. 545 (Tonga); *Gray, Hand-l. B.* i. p. 93, no. 1130 (1869); *Sharpe, Monogr. Alced.* p. 223, pl. 85 (1870); *Pelz. Ibis*, 1873, p. 19 (Otaheite; type); *Layard, P. Z. S.* 1875, p. 426 (Fiji); *id. Ibis*, 1876, p. 391 (pt.: Ovalau, Mokani, Vanua Levu, Taviuni, Loma Loma, Mango, Viti Levu, Kandavu); *id. t. c.* p. 501 (Tonga); *Finsch, P. Z. S.* 1876, p. 19; *Cab. & Reichen. J. f. O.* 1876, p. 323 (Levuka); *Finsch, op. cit.* 1877, p. 773 (Friendly Isl.); *Layard, Ibis*, 1878, p. 269, note; *North, Proc. Linn. Soc. N. S. W.* (2) ii. p. 441 (1887: Ovalau, breeding).

Adult. General colour above bright blue, slightly greenish on the scapulars and mantle, but more brilliant on the wing-coverts, lower back, rump, and upper tail-coverts; the quills black, externally ultramarine-blue; tail-feathers ultramarine, blackish on the shafts and along the inner web; crown of head bright blue; lores black, surmounted by a band of white, which commences at the base of the nostrils and completely surrounds the crown; this white band is followed by a second band of bright blue, which embraces the sides of the face and ear-coverts and extends below the nape round the hind neck; this blue band is again followed by a broad white band round the hind neck; below the eye a white spot; cheeks and under surface of body pure white, including the under wing-coverts and axillaries; quills blackish below, ashy towards the base of the inner web. Total length 8·5 inches, culmen 1·9, wing 4·2, tail 2·3, tarsus 0·6.

In the Fiji Islands, but not, so far as I can find out, in Tongatabu, the immature birds with rufous eyebrows have the sides of the body and under wing-coverts orange-rufous. This character, however, does not seem to be developed in equal extent in all specimens from identical localities, and I have not been able to separate the Fiji birds from the others from Tongatabu.

The specimens with the cinnamon-coloured eyebrow are by far the most plentiful in collections, but I believe that the fully adult birds are those with the white eyebrow, though some of these may have remains of immature plumage in the shape of blackish margins to the feathers of the breast and cervical collar, The orange-buff colour on the sides of the body is also probably a sign of immaturity, but I cannot yet quite account for all the changes of plumage which *H. sacer* apparently undergoes.

Hab. Friendly and Fiji Islands.

a. Ad. sk.	Vavao, Friendly Islands, July.	J. Brenchley, Esq. [P.].
b. Ad. sk.	Vavao (*Lieut. Murray*).	Jardine Coll.
c, *d*, *e*. Ad. sk.	Tongatabu.	Sir E. Home [P.]. (Types of *H. superciliosa*.)
f. Ad. sk.	Tongatabu.	Sir E. Home [P.].
g–*k*. Ad. sk.	Tongatabu (*J. Brenchley*: *Sharpe Coll.*).	Tweeddale Coll.
l, *m*. Ad. sk.	Tongatabu, Nov. (*Dr. Coppinger*).	Voy. H.M.S. 'Alert.'

n, *o*, *p*. ♂, *q*, *r*. ♀ ad.; *s*, *t*. ♂ ♀ juv. sk.	Tongatabu.	Voy. H.M.S. 'Challenger.'
u. ♀ ad. sk.	Levuka, Aug. 15 (*E. L. Layard*).	Tweeddale Coll.
v. ♂ imm. sk.	Ovalau, April 23 (*E. L. Layard*).	Tweeddale Coll.
w. ♀ imm. sk.	Taviuni, Aug. 14 (*E. L. L.*).	Tweeddale Coll.
x, *y*, *z*. Ad. sk.	Taviuni (*Liardet*).	Salvin-Godman Coll.
a'. ♂ ad. sk.	Rewa, Jan. 7 (*E. L. L.*).	Tweeddale Coll.
b'. Imm. sk.	Mbau Island, Aug. 7.	J. Brenchley, Esq. [P.].
c'. ♀ ad. sk.	Loma Loma, Dec. 3 (*E. L. L.*).	Tweeddale Coll.
d', *e'*, *f'*. ♂ imm. sk.	Kandavu.	Voy. H.M.S. 'Challenger.'

34. Halcyon juliæ.

Sauropatis juliæ, *Heine, J. f. O.* 1860, p. 184.
Dacelo grayi, *Schl. Mus. P.-B.* Alced. p. 37 (1863).
Halcyon juliæ, *Gray, Hand-l. B.* i. p. 93, no. 1124 (1869); *Sharpe, Monogr. Alced.* p. 227, pl. 86 (1871); *Tristr. Ibis*, 1876, p. 260 (Erromango, Aneiteum, Amira); *id. Ibis*, 1878, p. 268, note; *id. Ibis*, 1879, p. 181 (New Caledonia), p. 191 (Vaté); *Ramsay, Proc. Linn. Soc. N. S. W.* iii. p. 337 (1879: Havannah Harbour); *Layard, Ibis*, 1880, p. 459 (Aneiteum, Tanna, Vaté, S. Bartholomew, in New Hebrides).

Adult. Mantle, upper back, and scapulars green; lower back, rump, and upper tail-coverts brighter greenish blue; wing-coverts bright greenish blue, the greater coverts and outer aspect of quills ultramarine-blue, the inner secondaries greener; inner aspect and ends of quills black; tail-feathers blue, blackish along the inner edge and along the shafts; crown of head greenish blue, surrounded by a broad band of cinnamon-buff, which extends from the base of the nostril over the eye and surrounds the nape; lores and eyelid black; sides of face and ear-coverts dark green, the hinder ear-coverts black, which is continued in a band round the hind neck and is followed by a broad white collar round the latter; the mantle separated from the white collar by a blackish shade; cheeks and under surface of body pure white, including the under wing-coverts, the latter slightly dusted with fulvous; quills blackish below, ashy fulvous along the inner web. Total length 8·8 inches, culmen 1·8, wing 4·05, tail 2·7, tarsus 0·6.

Adult female. Like its ally, *H. sacer*, this species appears to undergo a similar change of plumage, the fully adult bird having a white eyebrow and nuchal collar: "bill black, white at base; feet dark olive; iris dark" (*G. E. Richards*). Total length 8·5 inches, culmen 1·8, wing 3·8, tail 2·5, tarsus 0·55.

Young. Much duller in colour and more dusky green than the adults, with sandy-buff margins to the wing-coverts, the frontal feathers also edged with sandy buff; a broad ferruginous eyebrow continued into a nuchal collar; under surface of body white, the sides of the body washed with tawny buff.

Hab. New Hebrides. Mr. Layard states that he has also received it from Ansevata, New Caledonia.

a. Ad. sk.	New Hebrides.	J. Macgillivray [C.].
b, *c*. Ad. sk.	New Hebrides.	Capt. J. Wickham Perry [P.].
d. ♂ imm. sk.	Aneiteum, June 16 (*J. Macgillivray*).	Eyton Coll.
e. ♂ juv. sk.	Aneiteum, Dec. 10.	J. Macgillivray [C.].
f. ♂ imm. sk.	Aneiteum, Aug.	J. Brenchley, Esq. [P.].
g. ♀ ad. sk.	Erromango, Sept. 12.	J. Macgillivray [C.].
h. ♂ juv. sk.	Tanna, Dec. 5 (*J. M.*).	Gould Coll.
i. ♀ ad. sk.	Havannah Harbour, Vaté, April 20 (*G. E. Richards*).	Tweeddale Coll.

35. Halcyon occipitalis.

Todirhamphus collaris (*nec Swains.*), *Blyth, J. A. S. Beng.* xv. pp. 23, 51, 369 (1846).

Todirhamphus occipitalis, *Blyth, J. A. S. Beng.* xv. p. 369 (1846); *id. Cat. B. Mus. As. Soc.* p. 48 (1849); *Cass. U.S. Expl. Exped.* p. 205, pl. 19. fig. 1 (1858).

Halcyon occipitalis, *Ball, J. A. S. Beng.* xxxix. p. 31 (1870); *id. Str. F.* i. p. 58 (1873); *id. Nests & Eggs Ind. B.* p. 107 (1873); *Hume, Str. F.* ii. p. 171 (1874: Nicobars); *id. Str. F.* viii. p. 86 (1879); *Davison, Ibis*, 1885, p. 332; *Oates, ed. Hume's Nests & Eggs*, iii. p. 19 (1890).

Adult male. Very similar to *H. julie*, and having the same broad superciliary band of cinnamon-buff, but this is much paler, and it further differs in the ochreous-buff abdomen, flanks, and under tail-coverts. Total length 9·5 inches, culmen 1·8, wing 4·1, tail 2·6, tarsus 0·55.

Adult female. Similar to the male, but apparently always whiter below. Total length 9·5 inches, culmen 2·16, wing 4·1, tail 3, tarsus 0·65.

Hab. Nicobar Islands.

a, *b*. Ad. et imm. sk.	Nicobars (*R. J. Wimberley*).	Sharpe Coll.
c. Ad. sk.	Nicobars.	Hume Coll.
d–*f*. ♂ ad.; *g*, *h*, *i*. ♀ ad. sk.	Car Nicobar, March (*A. O. H.*: *W. D.*).	Hume Coll.
k, *l*. ♀ ad. sk.	Tillangchoung, Nicobars, March 10 (*A. O. H.*).	Hume Coll.
m–*w*. ♂ ad. et imm.; *x*–*c'*. ♀ ad. et imm. sk.	Camorta, Nicobars, Feb., March (*W. Davison*).	Hume Coll.
d', *e'*. ♂ ♀ ad. sk.	Camorta, Dec. (*R. J. Wimberley*).	Tweeddale Coll.
f'. ♂ imm.; *g'*. ♀ ad. sk.	Trinkut, Dec., Jan. (*R. J. Wimberley*).	Tweeddale Coll.
h'. ♀ ad. sk.	Trinkut, March 1 (*W. Davison*).	Hume Coll.
i'. ♀ ad. sk.	Nancowry, Dec. (*R. J. Wimberley*).	Tweeddale Coll.
k'. ♂ ad.; *l'*, *m'*. ♀ imm. sk.	Katchall, March (*W. Davison*).	Hume Coll.
n', *o'*. ♂ ♀ ad. sk.	Tress Island, March 15 (*W. Davison*).	Hume Coll.

36. Halcyon pealii.

Dacelo albifrons, *Peale, U.S. Expl. Exped.* p. 162 (1848, descr. nullâ).
Todirhamphus tuta (*nec Gm.*), *Cassin, U.S. Expl. Exped., Birds*, pp. 192, 206, pl. 15. fig. 1 (1858).
Halcyon sacra (*nec Gm.*), *Ramsay, Proc. Linn. Soc. N. S. W.* ii. p. 141 (1878: Tutuila).
Halcyon pealei, *Finsch & Hartl. Faun. Centralpolyn.* p. 40 (1867).

Adult. General colour above green; the lower back, rump, and upper tail-coverts lighter and more greenish blue, the lateral tail-coverts edged with white on the inner web; wing-coverts also greenish blue, the greater coverts and outer aspect of quills more ultramarine; tail blue, with black shafts, the inner webs blackish, and the outer feathers fringed with white at the end of their inner webs; crown of head green in the centre; forehead, eyebrow, and sides of crown pure white, encircling the nape; lores black; eyelid white; ear-coverts dark green; below the nape a band of black, followed by a white collar round the hind neck; cheeks and entire under surface of body pure white. Total length 8·5 inches, culmen 1·75, wing 3·95, tail 2·8, tarsus 0·55.

Hab. Island of Tutuila, Samoa group.

a.	Ad. sk.	[Tutuila.]	Gould Coll.
b.	♀ ad. sk.	Tutuila, July.	J. Brenchley, Esq. [P.].

37. Halcyon tutuilæ.

Halcyon coronata (*nec S. Müll.*), *Peale, U.S. Expl. Exped.* p. 156, pl. 160 (1848); *Hartl. Arch. Naturg.* 1852, p. 111.
Todirhamphus tuta, *Cass. U.S. Expl. Exped., Birds*, pl. 15. fig. 1 (1858).
Halcyon sacra (*nec Gm.*), *Salvin, P. Z. S.* 1879, p. 129 (Tutuila).

Adult. Similar to *H. sacer*, but having a broad white frontal band which is continued into the white eyebrow and surrounds the hinder nape in a band. Total length 8·5 inches, culmen 1·8, wing 3·85, tail 2·7, tarsus 0·5.

Hab. Island of Tutuila, Samoa group.

a.	Ad. sk.	Tutuila (*Rev. J. Powell*).	Salvin-Godman Coll.

38. Halcyon tannensis.

Adult male. Similar to *H. tristrami* from the Fiji Islands (*vide* p. 267), but differing in the wider extent of the orange-buff supraloral spot; the collar on the hinder nape cinnamon; the cheeks and under surface being also fulvous, paler on the throat, but deepening to orange-buff on the lower abdomen, flanks, and under tail-coverts; under wing-coverts deep orange-buff. Total length 8·5 inches, culmen 1·85, wing 3·9, tail 2·8, tarsus 0·55.

Hab. Island of Tanna, New Hebrides.

a.	♂ ad. sk.	Tanna, Dec. 4 (*Dr. F. M. Rayner*).	Voy. H.M.S. 'Herald.

39. Halcyon tristrami.

Halcyon tristrami, *Layard, Ibis*, 1880, p. 460, pl. 15 (San Cristoval); *Ramsay, Proc. Linn. Soc. N. S. W.* vii. p. 21 (1883: Solomon Isl.); *Finsch, Vög. der Südsee*, p. 8 (1884); *Sharpe in Gould's B. New Guinea*, iv. pl. 54 (1885); *Grant, P. Z. S.* 1887, p. 330 (Fauro), 1888, p. 193.

Sauropatis tristrami, *Salvad. Orn. Papuasia*, iii. App. p. 524 (1882); *id. Agg. Orn. Papuasia*, i. p. 58 (1889).

Adult male. Green, like *H. chloris*, but rather larger, and easily distinguished by the tawny-buff collar on the hind neck and tawny underparts; the throat whitish; supraloral spot tawny buff; a spot below the eye, and a few feathers above the latter, white; the head green, but inclining to blue above the eye and on the sides of the crown and nape; a concealed occipital patch of white or ochreous buff: "bill black, white towards the base of lower mandible; feet blackish; iris brown" (*G. E. Richards*). Total length 8·5 inches, culmen 2, wing 4·15, tail 2·8, tarsus 0·6.

Adult female, Similar in colour to the male, but whitish on the centre of the abdomen. Total length 9 inches, culmen 2·0, wing 4·25, tail 2·75, tarsus 0·6.

Young. Exactly like the adult, but with a few dusky margins to the feathers of the breast, and having a much shorter bill.

It would seem that in this species the immature birds do not have any fulvous margins to the wing-coverts.

Hab. Solomon Islands and New Britain.

a. ♂ ad. sk.	Blanche Bay, New Britain, June 13.	L. C. Layard, Esq. [C.].
b. ♂ ad. sk.	Blanche Bay, July 2 (*G. E. Richards*).	Tweeddale Coll.
c. Juv. sk.	Kabahadai, New Britain, Feb.	Rev. G. Brown [C.].
d. ♀ ad. sk,	New Britain, May 22.	Dr. Kubary [C.].
e, *f.* ♂ ♀ ad. sk.	Fauro, Solomon Islands.	C. M. Woodford, Esq. [C.].

40. Halcyon sanctus.

The Sacred King's Fisher, *Philipps, Voy. Bot. B.* p. 156 (1789); *White's Voy. N. S. W.* p. 193, pl. 17 (1790).

Alcedo sacra, var., *Shaw, Gen. Zool.* viii. p. 78 (1811).

Halcyon sacra (*nec Gm.*), *Steph. in Shaw Gen. Zool.* xiii. p. 98 (1826); *Jard. & Selby, Ill. Orn.* ii. pls. 96, 97 (c. 1839).

Halcyon collaris (*nec Swains.*), *Vig. & Horsf. Tr. Linn. Soc.* xv. p. 206 (1826); *Gould, Syn. B. Austr.* pt. iii. (1838).

Halcyon sanctus, *Vig. & Horsf. Tr. Linn. Soc.* xv. p. 206 (1826); *Swains. Classif. B.* ii. p. 335 (1837); *Gould, B. Austr.* ii. pl. 21 (1840); *S. Müll. Verh. Land- en Volkenk.* p. 175 (1839–44); *Gray, Gen. B.* i. p. 79 (1846); *id. List Fissir. Brit. Mus.* p. 56 (1848); *Reichenb. Vög. Neuholl.* p. 33 (1850); *Elsey, P. Z. S.* 1857, p. 25; *Gray, P. Z. S.* 1858, pp. 172, 190, 1859, pp. 154, 160; *id. Cat. Mamm. & B. New Guinea*, pp. 20, 55 (1859); *id. Cat. B. Trop. Isl.* p. 6 (1859); *id. P. Z. S.* 1860, p. 346, 1861, p. 433; *id. Ibis*, 1862, p. 216; *Wall. P. Z. S.* 1863, p. 484; *Pelz. Reis. Novara, Vög.* pp. 44, 161 (1865); *Hartl. & Finsch, P. Z. S.* 1868, pp. 116, 118 (Pelew Islands); *Scl. P. Z. S.* 1869, p. 119; *Diggles, Orn.*

Austr. pl. 2. fig. 2 (1869); *Gray, Hand-l. B.* i. p. 92, no. 1112 (1869); *Sharpe, Monogr. Alced.* p. 239, pl. 91 (1870); *Hartl. P. Z. S.* 1872, p. 89; *Scl. P. Z. S.* 1873, p. 3; *Brüggem. Nat. Ver. Bremen*, v. p. 54 (1876); *Scl. P. Z. S.* 1877, p. 105; *Sharpe, Journ. Linn. Soc.* xiii. pp. 311, 492 (1878); *Scl. P. Z. S.* 1878, p. 289; *Ramsay, Proc. Linn. Soc. N. S. W.* ii. p. 178 (1878), iii. p. 261 (1878), iv. pp. 67, 97 (1879); *Tristr. Ibis*, 1879, pp. 181, 191, 438; *Finsch, P. Z. S.* 1879. p. 10; *Sharpe, Journ. Linn. Soc.* xiv. p. 686 (1879); *Scl. P. Z. S.* 1879, p. 447 (Duke of York Island); *Finsch, Ibis*, 1881, p. 535 (New Britain); *Sharpe, Journ. Linn. Soc.* xvi. p. 429 (1882: East Cape); *Tristr. Ibis*, 1882, pp. 134, 143 (Rendova Isl.); *E. L. & L. C. Layard, Ibis*, 1882, pp. 503, 543 (New Caledonia); *Ramsay, Proc. Linn. Soc. N. S. W.* vii. p. 20 (1883: Solomon Isl.); *Finsch, Vög. der Südsee*, pp. 8, 24 (1884: New Britain); *Sharpe, Voy. H.M.S. 'Alert,'* p. 24 (1884: Thursday Isl.); *Ramsay, op. cit.* (2) iv. p. 1086 (1886: N.W. Australia); *Grant, P. Z. S.* 1887, p. 330 (Solomon Isl.), 1888, pp. 187, 193 (Rubiana; Guadalcanar); *Blasius, Ornis*, iv. p. 575 (1888: Gt. Sanghir); *North, Proc. Linn. Soc. N. S. W.* (2) iii. p. 1774 (1888: Cumberland); *Cox & Hamilton, op. cit.* (2) iv. p. 401 (1889: Mudgee district); *North, t. c.* p. 1025 (N.W. Australia).

Halcyon cinnamomeus (*nec Swains.*), *Less. Voy. Coquille, Zool.* i. p. 343 (1826); *id. op. cit.* i. pt. ii. p. 696 (1828).

Alcedo vagans, pt., *Less. op. cit.* i. pt. ii. p. 696 (1828).

Dacelo chlorocephala, var. *b*, *Less. Traité*, p. 246 (1831).

Alcedo vagans, var. 1, *Less. Compl. Buff., Ois.* p. 650 (1838).

Todirhamphus sanctus, *Bp. Consp.* i. p. 156 (1850); *Reichenb. Handb., Alced.* p. 33, Taf. 418. figs. 3131–33 (1851); *Bp. Consp. Volucr. Anis.* p. 9 (1854); *Cass. U.S. Expl. Exped.* p. 214 (1858); *Wall. P. Z. S.* 1862, p. 338, 1863, p. 23; *Rosenb. J. f. O.* 1864, p. 118; *Gould, Handb. B. Austr.* i. p. 128 (1865); *Ramsay, Ibis*, 1866, p. 327; *Masters, Proc. Linn. Soc. N. S. W.* i. p. 47 (1876: Palm Island); *Casteln. & Ramsay, t. c.* p. 380 (Norman River); *Ramsay, t. c.* p. 390 (Pt. Moresby).

Todirhamphus australasiæ (*nec V.*), *Cass. Cat. Halcyon. Philad. Mus.* p. 12 (1852).

Sauropatis sancta, *Cab. & Heine, Mus. Hein.* Th. ii. p. 158 (1860); *Wald. Tr. Z. S.* viii. p. 44 (1872); *Salvad. Ucc. Born.* p. 104 (1874); *id. & D'Albert, Ann. Mus. Genov.* vi. p. 184 (1875); *Salvad. op. cit.* ix. p. 19 (1876), x. pp. 126, 306 (1877); *id. P. Z. S.* 1878, p. 94; *id. Atti R. Accad. Sci. Torino*, xiii. p. 319 (1878); *D'Albert. & Salvad. Ann. Mus. Genov.* xiv. p. 52 (1879): *Salvad. t. c.* p. 646 (Ké Islands); *Meyer, Ibis*, 1879, p. 62 (Celebes); *Vorderm. Nat. Tijdschr. Nederl. Ind.* xliii. p. 177 (1884); *Salvad. Rep. Voy. H.M.S. 'Challenger,'* ii. *Birds*, p. 76 (1881); *Meyer, Sitz. u. Abhandl. Ges. 'Isis,'* 1884, Abth. i. p. 19 (Timor Laut); *Forbes, P. Z. S.* 1884, pp. 426, 432; *Meyer, Zeitschr. ges. Orn.* i. p. 276 (1884); *Guillem. P. Z. S.* 1885, p. 548 (Menado), p. 568 (Ternate, Batchian, Weda); *id. t. c.* p. 627 (Waigiou, Batanta); *Meyer, Zeitschr. ges. Orn.* iii. p. 34 (1886: Kafu); *Salvad. Agg. Orn. Papuasia*, i. p. 58 (1889).

Dacelo sancta, *Schl. Mus. Pays-Bas*, Alced. p. 35 (1863); *id. Vog. Nederl. Ind.*, Alced. pp. 27, 59, pl. x. fig. 1 (1864); *Finsch, Neu-Guinea*, p. 161 (1865); *Schl. Mus. P.-B.*, Alced. *Revue*, p. 26 (1874); *Rosenb. Reist. naar Geelvinkb.* p. 6 (1875).

? Halcyon sacra, pt., *Cab. & Reichen. J. f. O.* 1876, p. 323 (New Hanover).

Adult male. General colour above green, the mantle, scapulars, and lesser wing-coverts being of this colour, with a blackish shade below the white collar on the hind neck; the back and upper tail-coverts blue, a little brighter towards the latter; median and greater wing-coverts and outer aspect of quills blue, the latter dusky blackish at the ends and on the inner webs; tail blue, with blackish shafts and edges to the inner webs; crown of head greenish blue, brighter blue from behind the upper eye round the nape; lores, eyelid, sides of face, and ear-coverts black, washed with blue on the latter, and continued in a black band round the nape; a concealed occipital spot of white; a supraloral spot of sandy buff; over the eye a small streak of white; underneath the gape the black of the sides of the face is continued in a line along the fore part of the cheeks: a broad collar round the hind neck, remainder of the cheeks and entire under surface of body pale ochreous buff, paling to whitish on the throat, cheeks, and sides of neck, the collar round the latter being pale also; flanks, under wing-coverts, and axillaries deeper ochreous buff; quills dusky below, rather ashy along the inner web: "bill black, the basal half of the lower mandible fleshy white; feet fleshy red, tinged with brown; iris dark brown" (*J. Gould*). Total length 7·5 inches, culmen 1·6, wing 3·75, tail 2·4, tarsus 0·45.

Young. Similar to the adult, but with all the colours much duller; the frontal feathers, all the wing-coverts, and inner secondaries edged with sandy buff; the feathers of the under surface and of the collar on the hind neck edged with dusky brown, producing a narrowly barred appearance.

After the first moult, though the colours of the young are almost as bright as those of the adult, the dusky bars on the hind neck and under surface are retained for some considerable time. The back is, moreover, more olive-green than in the adults.

Hab. Australia to New Caledonia, the Solomon Islands and New Hebrides, throughout the Papuan Islands to the Moluccas, Celebes, Lombock, Java, and Sumatra.

a. Imm. sk.	Australia.	Linnean Society. (Type of species.)
b. Ad. sk.	Australia.	Sir D. Cooper [P.].
c. Ad. sk.	Australia (*Sharpe Coll.*).	Tweeddale Coll.
d. Ad. sk.	Australia.	Gould Coll.
e, f. Ad. st.	South Australia.	Sir G. Grey [P.].
g. ♂ ad. sk.	South Australia.	Gould Coll.
h. Imm. sk.	South Australia.	Capt. Sturt [P.].
i. ♀ imm. sk.	Petersham, South Australia, July 19 (*Sharpe Coll.*).	Tweeddale Coll.
k. Ad. sk.	Melbourne (*Sharpe Coll.*).	Tweeddale Coll.
l. Ad. sk.	New South Wales.	Gould Coll.
m. Ad. sk.	New South Wales.	Tweeddale Coll.
n. ♂ ad. sk.	Hunter River, N. S. W., Sept.	Gould Coll.
o. Ad. sk.	Clarence River.	Tweeddale Coll.
p–s. Ad. et imm. sk.	Queensland (*Sharpe Coll.*).	Tweeddale Coll.
t–v. Imm. sk.	Queensland (*J. T. Cockerell*).	Salvin-Godman Coll.

w–y. Ad. sk.	Cape York (*Cockerell & Thorpe*: *Sharpe Coll.*).	Tweeddale Coll.
z, *a'*. Ad. sk.	Port Albany (*C. Coxen*).	Tweeddale Coll.
b'. ♂ ad. sk.	Booby Island, Torres Straits.	Voy. of H.M.S. 'Challenger.'
c'. ♂ ad.; *d'*,*e'*. ♀ ad. sk.	Thursday Island, July, Aug. (*Dr. Coppinger*).	Voy. of H.M.S. 'Alert.'
f'. Ad. sk.	Sunday Island, June 16.	J. B. Jukes, Esq. [P.].
g', *h'*. Imm. st.	Port Essington.	Capt. Chambers [P.].
i'. Ad. sk.	Port Essington, July 29.	Gould Coll.
k', *l'*. Ad. sk.	Victoria River, N.W. Australia.	J. R. Elsey, Esq. [P.].
m'. Imm. sk.	Island of Nu, Port de France, New Caledonia, April (*J. McGillivray*).	Voy. of H.M.S. 'Rattlesnake.'
n'. ♂ ad. sk.	Isle of Pines, New Caledonia, Oct. (*J. MacGillivray*).	Gould Coll.
o'. ♂ ad. sk.	Trinity Bay, July (*J. MacGillivray*).	Voy. of H.M.S. 'Rattlesnake.'
p'. ♀ ad. sk.	New Caledonia (*Sharpe Coll.*).	Tweeddale Coll.
q'. Ad. sk.	Loyalty Islands.	Sir G. Grey [P.].
r'. Ad. sk.	Loyalty Islands.	Rev. S. Whitmee [C.].
s'. Ad. st.	Loyalty Islands.	Sir G. Grey [P.].
t', *u'*. ♂ ad. sk.	Duke of York Island, Oct. (*G. Brown*).	Tweeddale Coll.
v'. Ad. sk.	New Ireland.	P. L. Sclater, Esq. [P.].
w'. Imm. sk.	New Guinea (*A. R. Wallace*).	Tweeddale Coll.
x', *y'*, *z'*. Ad. sk.	Astrolabe Mountains.	Hon. Hugh Romilly [P.].
a''. Ad. sk.	Yule Island, April (*Dr. James*).	Tweeddale Coll.
b''. Ad. sk.	Dorey (*A. R. Wallace*: *Sharpe Coll.*).	Tweeddale Coll.
c''. Ad. sk.	Salawati (*Rosenberg*: *Sharpe Coll.*).	Tweeddale Coll.
d''. Ad. sk.	Waigiou (*Wallace*: *Sharpe Coll.*).	Tweeddale Coll.
e''. ♂ ad. sk.	Gagie Island.	Wallace Coll.
f''. ♀ ad. sk.	Mysol.	Wallace Coll.
g'', *h''*. ♂ imm. et ♀ imm. sk.	Aru Islands (*A. R. Wallace*: *Sharpe Coll.*).	Tweeddale Coll.
i''. ♂ ad. sk.	Wokan, Aru Islands.	Voy. of H.M.S. 'Challenger.'
k''–m''. Imm. sk.	Goram (*A. R. Wallace*: *Sharpe Coll.*).	Tweeddale Coll.
n''. ♂ ad. sk.	N. Ceram (*A. R. Wallace*: *Sharpe Coll.*).	Tweeddale Coll.
o''. ♀ ad. sk.	Amboina, June (*Leyden Museum*).	Salvin-Godman Coll.
p''. Imm. sk.	Bouru (*A. R. Wallace*: *Sharpe Coll.*).	Tweeddale Coll.
q''. Ad. sk.	Ternate.	Wallace Coll.
r''–t''. Imm. sk.	Hahmahéra (*A. R. Wallace*).	Tweeddale Coll.
u''. Ad. sk.	Sula Islands (*A. R. Wallace*: *Sharpe Coll.*).	Tweeddale Coll.
v''. ♀ ad. sk.	Celebes (*Leyden Museum*).	Salvin-Godman Coll.
w''. ♀ imm. sk.	Macassar.	Wallace Coll.

x''. ♀ ad. sk.	Togian Islands (*A. B. Meyer*).	Tweeddale Coll.
*y''–b*³. ♂ ad. sk.	Lombock (*A. R. Wallace*).	Gould Coll.
*c*³. Ad. sk.	E. Java.	Wallace Coll.
*d*³–*g*³. Ad. et imm. sk.	Java (*W. T. Fraser*: *Sharpe Coll.*).	Tweeddale Coll.
*h*³–*i*³. Ad. sk.	Billiton (*Walter*).	Tweeddale Coll.
*k*³. Ad. sk.	Lampong, S.E. Sumatra (*E. C. Buxton*).	Tweeddale Coll.
*l*³. Skeleton.	Australia.	Salvin-Godman Coll.

41. Halcyon vagans.

Alcedo sacra, var. *d*, *Lath. Gen. Syn. Suppl.* p. 114 (1787).
Alcedo sacra, var. *e*, *Bonn. et Vieill. Enc. Méth.* i. p. 295 (1823).
Alcedo vagans, *Less. Voy.* '*Coquille*,' i. pt. 2, p. 694 (1828).
Dacelo chlorocephala, var. γ, *Less. Traité*, p. 246 (1841).
Alcedo cyanea, *Forster*, *Descr. Anim.* p. 76 (1844).
Halcyon vagans, *Gray*, *Zool. Voy.* '*Erebus*' *&* '*Terror*,' p. 3, pl. i. (1846); *id. Gen. B.* i. p. 79 (1846); *id. List Fissir. Brit. Mus.* p. 57 (1848); *id. Ibis*, 1862, p. 216; *Layard*, *Ibis*, 1863, p. 242; *Hutton*, *Ibis*, 1867, p. 379; *Buller*, *Essay Orn. N. Z.* p. 7 (1867); *Finsch*, *J. f. O.* 1867, p. 318; *Buller*, *Tr. N. Z. Inst.* i. p. 122 (1869); *Gray*, *Hand-l. B.* i. p. 92, no. 1113 (1869); *Hutton*, *t. c.* p. 160; *Potts*, *op. cit.* ii. p. 52 (1870); *Sharpe*, *Monogr. Alced.* p. 237, pl. 90 (1871); *Buller*, *B. N. Zeal.* p. 69 (1873); *Hutton*, *Ibis*, 1874, p. 36; *Sharpe*, *Voy.* '*Erebus*' *&* '*Terror*,' App. p. 24 (1875); *Finsch*, *Ibis*, 1882, p. 396; *Ramsay*, *Proc. Linn. Soc. N. S. W.* vii. p. 88 (1883: Lord Howe's Isl.); *Buller*, *B. N. Zeal.* 2nd ed. p. 121, pl. xiii. (1888); *Etheridge*, *Mem. Austr. Mus. Sydney*, no. 2 (Lord Howe's Island), p. 17 (1889).
Todirhamphus vagans, *Bp. Consp.* i. p. 157 (1850); *Reichenb. Handb.*, *Alced.* p. 31, Taf. 419. figs. 3188–89 (1851); *Cass. Cat. Halcyon. Philad. Mus.* p. 12 (1852); *Bp. Consp. Volucr. Anis.* p. 9 (1854); *Cass. U.S. Expl. Exped.* p. 201 (1858).
Dacelo sancta, pt., *Schl. Mus. Pays-Bas*, Alced. p. 37 (1863).
Dacelo vagans, *Schl. Mus. Pays-Bas*, Alced. *Revue*, p. 28 (1874).
Halcyon sanctus (*nec Vig. & Horsf.*), *Finsch*, *J. f. O.* 1870, p. 246.
Halcyon norfolkensis, *Tristr. Ibis*, 1885, p. 49.

Adult. Similar to *H. sanctus*, but larger, and rather duller in colour above, and very often rich ochreous-red below: "bill black, with the basal portion of the lower mandible white; feet dark brown, with paler soles; iris black" (*W. Buller*). Total length 8·6 inches, culmen 1·9, wing 3·8, tail 2·6, tarsus 0·5.

Young. Differs from the adult in having sandy margins to all the wing-coverts, and dusky fringes to the feathers of the chest.

This is a large and richly coloured island race of *H. sanctus*. The wing varies from 3·7 inches to 4.

Hab. New Zealand; Norfolk Island; Lord Howe's Island.

a. Imm. sk.	New Zealand.	Antarctic Expedition.
b. Imm. sk.	New Zealand.	New Zealand Company [P.].
c. ♀ imm. sk.	New Zealand, June 20 (*J. McGillivray*).	Gould Coll.
d, *e*. Juv. sk.	New Zealand (*Von Haast*: *Sharpe Coll.*).	Tweeddale Coll.

f, *g*. Imm.; *h*. Pull. sk.	New Zealand.	Sir G. Grey [P.].
i, *k*. Ad. sk.	New Zealand.	Percy Earl, Esq. [P.].
l, *m*. Ad. et imm. sk.	New Zealand.	Capt. Stokes [P.].
n. ♂ juv. sk.	Dunedin, June.	Hume Coll.
o. Imm. sk.	Bay of Islands, Aug. 23 (*Dr. McCormick*).	McCormick Coll.
p. Imm. sk.	Norfolk Island, June.	J. Brenchley, Esq. [P.].
q, *r*. ♂ ♀ imm. sk.	Norfolk Island, June (*Dr. F. M. Rayner*).	Voy. H.M.S. 'Herald.'
s, *t*. ♂ ♀ imm. sk.	Raoul Island (*Dr. F. M. Rayner*).	Voy. H.M.S. 'Herald.'
u–*x*. Ad. sk.	Lord Howe's Island.	Mr. E. H. Saunders [C.].

42. Halcyon cassini.

Todirhamphus vitiensis, pt., *Cass. U. S. Expl. Exped., Birds*, p. 210, pl. xvi. fig. 1 (1858).
Halcyon sacra, pt., *Layard, Ibis*, 1876, p. 391.
Halcyon cassini, *Finsch & Hartl. Faun. Centralpolyn.* p. 40 (1867); *Layard, Ibis*, 1876, p. 391 (Ovalau); *Cab. & Reichen. J. f. O.* 1876, p. 323 (Ovalau).

Adult. Allied to *H. chloris*, but with the blue colour of *H. sacer*, from which it differs in wanting the broad eyebrow and nuchal band. The ear-coverts are blue like the head; a supraloral spot of white is produced into a narrow white superciliary line; the occipital patch is pale cinnamon, but there is no continuation with the eyebrow, the feathers of the sides of the crown being either bright blue, or blue with white bases. Total length 8·5 inches, culmen 1·65, wing 3·55, tail 2·65, tarsus 0·6.

Two immature birds, from Ovalau and Levuka, apparently belong to this species. They have the flanks and abdomen, with the under tail-coverts, bright orange-buff.

Hab. Fiji Archipelago.

a. Ad. sk.	Fiji Islands.	A. P. Gordon, Esq. [P.].
b. Ad. sk.	Rewa, Viti Levu, Sept.	J. MacGillivray, Esq. [C.].
c. ♂ Imm. sk.	Levuka, July 18 (*E. L. Layard*).	Tweeddale Coll.
d. ♂ imm. sk.	Ovalau, June 12 (*E. L. Layard*).	Tweeddale Coll.
e. Ad. sk.	Matuka.	Gould Coll.

Halcyon chloris *and its allies.*

A study of the ample material which now exists in the British Museum has compelled me to modify very considerably the conclusions arrived at in my 'Monograph' nearly twenty years ago. Instead of the single species which I then acknowledged, I am able to recognize several forms of *H. chloris*, which may be admitted to the rank of races or sub-species, and in most cases a clearly defined geographical range aids in their recognition. Only here and there

is to be found a specimen which seems to be intermediate between the races; and as several of the latter appear to be migratory, it is quite possible that some of them hybridize with the resident birds of the countries which they visit. The true *H. chloris* of Scopoli appears to be the Philippine bird.

The nearest ally to true *H. chloris* seems to be *H. armstrongi*, which ranges from the Sunderbunds through the Burmese provinces to the Malayan Islands, being probably migratory in the latter localities. Its distinguishing characteristics are the green ear-coverts and the very slight development of the black collar round the nape. The eyebrow, such as it is, is bluish green.

In the Malayan Peninsula occurs a brilliantly coloured form of *H. chloris*, which is probably the resident species of that part of the world. Its general colour is bright blue, with vivid ultramarine wings and tail. There is scarcely any trace of a black collar on the nape, and in old birds this nuchal collar is blue. The ear-coverts are always bright blue, and there is a tinge of buff on the flanks and under wing-coverts, sometimes amounting to a distinct wash of tawny or orange. The females are greener and not so easy to distinguish from *H. chloris*, but the males are very distinct.

In the Andamans there is a blue form of *H. chloris*, very similar to the one from Malacca, but differing in its evident black nuchal collar and blacker ear-coverts; on the upper mantle also, below the white cervical collar, is a distinct shading of black, and the entire breast has a fawn-coloured tinge, deepening into tawny buff on the flanks and under tail-coverts.

In the Togian Islands, near Celebes, occurs another of these ultramarine-coloured races. It has a curiously upturned bill, resembles the Andaman species in its black ear-coverts and nuchal collar, but has only a little orange-buff on the flanks, thereby resembling the Malayan species.

43. **Halcyon chloris.** (Plate VII. fig. 3.)

Martin-pêcheur à collier blanc des Philippines, *Sonn. Voy. Nouv. Guin.* p. 67, pl. 33 (1776).
Martin-pêcheur à tête verte du Cap de Bonne Espérance, *Daubent. Pl. Enl.* viii. pl. 783. fig. 2.
Le Martin-pêcheur à tête verte, *Buff. Hist. Nat. Ois.* vii. p. 190 (1780).
Le Martin-pêcheur à collier blanc, *Buff. t. c.* p. 192 (1780).
Green-headed Kingfisher, *Lath. Gen. Syn.* i. pt. 2, p. 620 (1782).
Alcedo chloris, *Bodd. Tabl. Pl. Enl.* p. 49 (1783).
Alcedo collaris, *Scop. Del. Flor. et Faun. Insubr.* ii. p. 90 (1786); *Lath. Ind. Orn.* i. p. 250 (1790); *Kittl. Kupf. Voy.* i. pl. 14. fig. 1 (1833); *S. Müll. Verh. Land- en Volkenk.* p. 21 (1839–44); *Rosenb. Malay. Arch.* p. 364 (1878–79).
Alcedo sacra, var. ϵ, *Gm. Syst. Nat.* i. p. 453 (1788, *ex Sonn.*).
Alcedo chlorocephala, *Gm. S. N.* i. p. 454 (1788, *ex Daub.*); *Lath. Ind. Orn.* i. p. 250 (1790); *Shaw, Gen. Zool.* viii. p. 77 (1811); *Cuvier, Règne Anim.* i. p. 417 (1817); *Vieill. Nouv. Dict. d'Hist.*

Nat. xix. p. 417 (1818); *Horsf. Tr. Linn. Soc.* xiii. p. 174 (1821); *Raffl. t. c.* pt. 2, p. 293 (1822); *Reichenb. J. f. O.* 1854, p. 150.

Halcyon collaris, *Swains. Zool. Illustr.* i. pl. 27 (1820); *S. Müll. Verh. Land- en Volkenk.* pp. 174, 175 (1839–44); *Gray, Gen. B.* i. p. 79 (1846); *id. List Fissir. Brit. Mus.* p. 56 (1848); *Horsf. & Moore, Cat. B. Mus. E.I. Co.* i. p. 127 (1854); *Gray, P. Z. S.* 1858, pp. 171, 190 (Aru Islands); *id. Cat. B. New Guin.* pp. 19, 55 (1859); *id. P. Z. S.* 1860, p. 311 (Batchian, Gilolo); *id. P. Z. S.* 1861, p. 433 (Gagie, Mysol, Aru); *Sel. P. Z. S.* 1863, p. 213 (Dyak River); *Wall. t. c.* pp. 23 (Bouru), 484 (Lombock, Flores, Timor).

Halcyon sacra, var. F, *Bonn. et Vieill. Enc. Méth.* i. p. 295 (1823).

Halcyon chlorocephalus, *Steph. in Shaw's Gen. Zool.* xiii. p. 100 (1826); *Swains. Classif. B.* ii. p. 335 (1837); *Hartl. Ibis*, 1859, p. 339.

Dacelo chlorocephalus, *Less. Traité*, p. 246 (1831).

Halcyon chloris, *Gray, Gen. B.* i. p. 79 (1846); *Motley & Dillw. Nat. Hist. Labuan*, p. 12 (1855); *Pelz. Reis. Novara*, p. 44 (1865: Java); *Gray, Hand-list B.* i. p. 92, no. 1116 (1869); *Sharpe, Monogr. Alced.* p. 229, pl. 87 (1870); *Walden & Layard, Ibis*, 1872, p. 96 (Negros); *Hume, Str. F.* i. p. 451 (1873: Acheen); *Buller, Ibis*, 1874, p. 114; *Brüggem. Abhandl. nat. Ver. Bremen*, v. p. 73 (1876: Celebes); *Pelz. Verh. z.-b. Ges. Wien*, xxiv. p. 718 (1876); *Sharpe, Trans. Linn. Soc.* (2) i. p. 319 (1876: Philippines); *Sharpe, P. Z. S.* 1879, p. 332 (Labuan); *id. P. Z. S.* 1881, p. 793 (Sandakan); *Nichols. Ibis*, 1881, p. 142 (Java), 1883, p. 89 (Segilind River); *Sharpe, Ibis*, 1888, p. 197 (Palawan); *Everett, P. Z. S.* 1889, p. 225; *Whitehead, Ibis*, 1890, p. 45 (Palawan); *Sharpe, t. c.* pp. 90, 283 (N. Borneo); *Steere, List Birds & Mamm. Exped. Philipp.* p. 11 (1890).

Todirhamphus collaris, *Blyth, Cat. B. Mus. As. Soc.* p. 48 (1849); *Bp. Consp.* i. p. 156 (1850); *Reichenb. Handb., Alced.* p. 30, Taf. 417. fig. 3129, Taf. 403. B. fig. 3390 (1851); *Bp. Consp. Volucr. Anis.* p. 9 (1854); *Wall. P. Z. S.* 1862, p. 338; *id. P. Z. S.* 1863, p. 23 (Bouru).

Todirhamphus chlorocephalus, *Bp. Consp.* i. p. 156 (1850): *Reichenb. Handb., Alced.* p. 31, Taf. 417. fig. 3128 (1851); *Bernst. J. f. O.* 1859, p. 189 (Java).

Todirhamphus chloris, *Cass. Cat. Halc. Philad. Mus.* p. 10 (1852); *id. U. S. Expl. Exped.* p. 203 (1858); *Pelz. Reis. Novara, Vög.* p. 44 (1865); *Meyer, Ibis*, 1879, p. 61 (Celebes).

Dacelo chloris, *Schl. Handl. Dierk.* p. 32 (1857); *id. Mus. Pays-Bas*, Alced. p. 32 (1863); *id. Vog. Nederl. Ind.* pp. 26, 58, pl. x. figs. 3, 4 (1864); *Finsch, Neu-Guinea*, p. 161 (1865); *Schl. Mus. P.-B.* Alced *Revue*, p. 21 (1874); *Büttik. Notes Leyden Mus.* viii. p. 62 (1886: Tenimber Isls.).

Sauropatis chloris, *Cab. & Heine, Mus. Hein.* Th. ii. p. 160 (1860); *Salvad. Ucc. Born.* p. 103 (1874); *Walden, Trans. Z. S.* ix. p. 155 (1875); *Salvad. Ann. Mus. Genov.* vii. p. 653 (1875: Celebes), viii. p. 374 (Bouru), ix. p. 53 (1876: Sanghir), x. pp. 126, 305 (1877); *Tweedd. P. Z. S.* 1877, p. 690 (Luzon); *id. Ibis*, 1877, p. 296 (Lampong); *id. P. Z. S.* 1878, p. 108 (Dinagat), p. 282 (Negros), p. 341 (Leyte), p. 709 (Bohol); *id. P. Z. S.* 1879, p. 69 (Basilan); *Salvad. Ann. Mus. Genov.* xiv. p. 646 (1879: Ké Isl.); *id. Orn. Papuasia etc.* i. p. 470 (1880); *Tweedd. Rep. Zool. Coll. H.M.S. 'Challenger,'* ii. p. 13 (1881); *Salvad. t. c.* p. 76 (Aru Islands); *Meyer, Verh. z.-b. Ges. Wien*, xxxi. p. 763 (1881: Sumba), p. 770 (Luang), p. 772 (Daweloor); *Blas. u. Nehrk. Verh.*

z.-b. Ges. Wien, xxxii. p. 421 (1883 : Amboina) : *Kutter, J. f. O.* 1883, p. 301 (Sibulan) ; *Scl. P. Z. S.* 1883, p. 200 ; *Meyer, Zeitschr. ges. Orn.* i. p. 276 (1884 : Aru) ; *id. Sitz. u. Abhandl. Ges.* '*Isis*' *Dresden*, 1884, p. 19 (Babbar, Letti) ; *Forbes, P. Z. S.* 1884, p. 432 (Timor Laut) ; *Pleske, Bull. Acad. St. Pétersb.* xxix. p. 256 (1884 : Ternate) ; *Guillem. P. Z. S.* 1885, p. 256 (Sulu), p. 502 (Sumbawa), p. 547 (Celebes), p. 568 (Batchian, Obi) ; *Vorderm. Tijdschr. Nederl. Ind.* xlvi. p. 1 (1886 : W. Java), p. 11 (Borneo) ; *Blasius, Zeitschr. ges. Orn.* iii. p. 90 (1886) ; *id. Ornis*, iv. p. 307 (Palawan), p. 573 (1888 : Great Sanghir) ; *Salvad. Agg. Orn. Papuasia*, i. p. 57 (1889) ; *Vorderm. Nat. Tijdschr. Nederl. Indie*, l. Afl. 4, p. 439 (1890 : Billiton).

Adult male. General colour above bright green on the mantle, upper back, and scapulars ; the lower back, rump, and upper tail-coverts being bright cobalt-blue ; wing-coverts shining cobalt-blue ; the greater series, as well as the external aspect of the quills, deep ultramarine, the rest of the quills blackish ; tail ultramarine-blue ; crown of head bluish green, lighter blue on the eyebrow ; a large concealed spot of white on the occiput ; lores black, surmounted by a spot of white ; lower edge of eyelid white ; above the eye a few white feathers ; ear-coverts black, slightly washed with bluish green on the anterior and lower portions ; sides of neck and a broad collar round the hind neck white, separated from the crown by a narrow collar of black ; cheeks and under surface of body pure white, including the under wing-coverts and axillaries : "bill black ; feet dark brown ; iris brown" (*A. H. Everett*). Total length 9·3 inches, culmen 2, wing 4, tail 2·7, tarsus 0·5.

Adult female. Similar to the male in colour. Total length 8·7 inches, culmen 2·1, wing 4·1, tail 2·5, tarsus 0·5.

Under the heading of *H. chloris* I have retained Indo-Malayan and Moluccan specimens, but I am not yet satisfied that they are all strictly identical. I have not, however, been able to draw the line between some of these races, for some have green ear-coverts and approach *H. armstrongi* of Siam and Tenasserim, whereas others, especially those from some of the Molucca Islands, have black ear-coverts joining a very broad black nape-band. The females and young birds appear to have invariably blacker ear-coverts than the adult males. Some Javan specimens have a tolerably distinct superciliary line of white.

Hab. From Sumatra and Java to the Philippines, thence to the Moluccas.

a. Ad. sk.	Sumatra (*Sir S. Raffles*).	India Museum.
b–g. Ad. et imm. sk.	Sumatra (*A. R. Wallace & C. Bock*).	Tweeddale Coll.
h, i. ♂ ad. ; *k–o.* ♀ ad. sk.	Acheen, Sumatra, Feb. (*W. Davison*).	Hume Coll.
p–t. Ad. sk.	Lampong, S.E. Sumatra (*E. C. Buxton*).	Tweeddale Coll
u. Ad. sk.	Java.	Gould Coll.
v. Ad. sk.	Java (*Dr. Horsfield*).	India Museum.
w. Ad. sk.	Java (*Leyden Museum*).	Salvin-Godman Coll.

x, *y*, *z*. Ad. et imm. sk.	Java (*Sharpe Coll.*).	Tweeddale Coll.
a', *b'*. Ad. sk.	East Java (*A. R. Wallace* : *Sharpe Coll.*).	Tweeddale Coll.
c', *d'*. Ad. et imm. sk.	Billiton.	Tweeddale Coll.
e'. Ad. sk.	Labuan (*J. Motley*).	Tweeddale Coll.
f'. ♀ imm. sk.	Manila.	Gould Coll.
g'. ♀ ad. sk.	Luzon, April (*A. B. Meyer*).	Tweeddale Coll.
h'. ♀ imm. sk.	Monte Alban, Luzon, March (*A. H. Everett*).	Tweeddale Coll.
i'. Juv. sk.	Marinduque, May.	E. L. Moseley [C.].
k', *l'*. ♂ ♀ imm. sk.	Ilo-Ilo, Panay.	Voy. of H.M.S. 'Challenger.'
m', *n'*. ♂ ad. sk.	Guimaras, March (*A. B. Meyer*).	Tweeddale Coll.
o'. ♂ ad. sk.	Negros (*L. C. Layard*).	Tweeddale Coll.
p'. ♀ imm. sk.	Valencia, Negros, Aug. (*A. H. Everett*).	Tweeddale Coll.
q', *r'*. ♂ ♀ ad. sk.	Cebu, March, April (*Meyer & Everett*).	Tweeddale Coll.
s'. ♀ ad. sk.	Dumaguete, Aug. (*A. H. Everett*).	Tweeddale Coll.
t', *u'*. ♂ ♀ ad. sk.	Amparo, S. Leyte, July, Aug. (*A. H. Everett*).	Tweeddale Coll.
v'. ♂ ad. sk.	Dinagat Is., June (*A. H. Everett*).	Tweeddale Coll.
w'. ♀ ad. sk.	Surigao (*A. H. Everett*).	Tweeddale Coll.
x'. ♂ ad. sk.	Butuan R., May (*A. H. Everett*).	Tweeddale Coll.
y', *z'*. ♂ ♀ ad. sk.	Camiguin.	Voy. of H.M.S. 'Challenger.'
a''. ♂ ad. sk.	Basilan.	Prof. Steere [C.].
b''. ♀ ad. sk.	Basilan, May (*A. H. Everett*).	Tweeddale Coll.
c''–*e''*. ♂ ad. ; *f''*. ♀ ad. sk.	Lombock (*A. R. Wallace*).	Gould Coll.
g'', *h''*. Ad. sk.	Flores (*A. R. Wallace* : *Sharpe Coll.*).	Tweeddale Coll.
i''–*l''*. Ad. sk.	Solor (*A. R. Wallace* : *Sharpe Coll.*).	Tweeddale Coll.
m''. ♂ ad. sk.	Timor, Oct.	Gould Coll.
n''. ♀ imm. sk.	Timor (*A. R. Wallace* : *Sharpe Coll.*).	Tweeddale Coll.
o''. ♂ imm. sk.	East Timor (*A. R. Wallace* : *Sharpe Coll.*).	Tweeddale Coll.
p'', *q''*. ♂ ad. ; *r''*. Ad. sk.	Celebes (*W. T. Fraser* : *Sharpe Coll.*).	Tweeddale Coll.
s''. ♂ ad. ; *t''*. ♀ imm. sk.	Menado (*R. von Duivenbode* : *Sharpe Coll.*).	Tweeddale Coll.
u''. Ad. sk.	Menado.	Hume Coll.
v'', *w''*. Ad. sk.	Menado.	Gould Coll.
x''. Ad. sk.	Macassar.	Wallace Coll.
y''–*a*³. Imm. sk.	Sula Islands (*A. R. Wallace* : *Sharpe Coll.*).	Tweeddale Coll.
*b*³, *c*³. ♀ ad. sk.	Batchian (*Bernstein* : *Leyden Museum*).	Salvin-Godman Coll.
*d*³, *e*³. ♂ ♀ ad. sk.	Batchian (*A. R. Wallace* : *Sharpe Coll.*).	Tweeddale Coll.
*f*³. Imm. sk.	Gilolo (*A. R. Wallace* : *Sharpe Coll.*).	Tweeddale Coll.

g[3]. ♂ ad.; *h*[3]. ♀ imm. sk.	Bouru (*A. R. Wallace*).	Tweeddale Coll.
i[3]. Ad. sk.	Amboina.	Wallace Coll.
k[3], *l*[3]. ♂ ad.; *m*[3]. ♀ ad. sk.	Timor Laut, Aug., Sept.	H. O. Forbes, Esq. [C.].
n[3]. ♂ ad. sk.	N. Ceram (*A. R. Wallace*).	Tweeddale Coll.
o[3], *p*[3]. ♂ ♀ ad. sk.	Banda.	Voy. of H.M.S. 'Challenger.'
q[3]. Ad. sk.	Banda (*A. R. Wallace*: *Sharpe Coll.*).	Tweeddale Coll.
r[3]. Imm. sk.	Goram (*A. R. Wallace*: *Sharpe Coll.*).	Tweeddale Coll.
s[3]. Imm. sk.	Mysol.	Wallace Coll.
t[3]. ♀ imm. sk.	Gagie Island (*A. R. Wallace*: *Sharpe Coll.*).	Tweeddale Coll.
u[3]. ♂ ad. sk.	Aru Islands (*A. R. W.*).	Tweeddale Coll.
v[3]. Skeleton.	Java.	Salvin-Godman Coll.

Subsp. α. **Halcyon armstrongi.** (Plate VII. fig. 1.)

Halcyon collaris (*nec Swains.*), *Gould, P. Z. S.* 1859, p. 151 (Bangkok).

Halcyon chloris (*nec Bodd.*), *Hume, Str. F.* ii. p. 470 (1874); *Armstr. Str. F.* iv. p. 306 (1876: Irrawady Delta); *Hume & Davison, Str. F.* vi. p. 78 (1878: Tenasserim); *Hume, Str. F.* viii. p. 86 (1879, pt.); *Oates, Handb. B. Brit. Burm.* ii. p. 85 (1883).

Todirhamphus collaris (*nec Swains.*), *Jerd. B. Ind.* i. p. 228 (1862).

Todirhamphus chloris (*nec Bodd.*), *Hume, Ibis*, 1870, p. 438 (Sunderbunds).

Sauropatis chloris (*nec Bodd.*), *Blyth & Wald. B. Burm.* p. 71 (1875); *Müll. J. f. O.* 1882, p. 398 (Salanga).

Adult male. Similar to *H. chloris*, but with green ear-coverts and the black band round the nape obsolete. Total length 9 inches, culmen 1·9, wing 4·2, tail 2·7, tarsus 0·5.

Adult female. Similar to the male in colour: "upper mandible and tip of lower mandible black, whitish slate-colour at the base; feet purplish brown, claws black; iris light brown" (*W. Davison*). Total length 8·5 inches, culmen 1·95, wing 4·1, tail 2·7, tarsus 0·5.

Hab. From the Sunderbunds to Burmah, Tenasserim, and Siam, south to the Malayan Peninsula, Sumatra, and Northern Borneo.

a, *b*. ♂ ad.; *c*, *d*. ♀ ad. sk.	Sunderbunds, April, Sept. (*V. Ball*).	Hume Coll.
e. ♂ ad. sk.	Elephant Point, Dec. 9 (*J. Armstrong*).	Hume Coll.
f. ♂ ad. sk.	Syriam, Feb. 16 (*J. Armstrong*).	Hume Coll.
g. Ad. sk.	Irrawady Delta.	Oates Coll.
h. ♂ ad. sk.	Thatone, Tenasserim.	Hume Coll.
i. ♀ ad. sk.	Yea, April (*W. Davison*).	Hume Coll.
k. ♀ imm. sk.	Wippitan, Dec. (*J. Darling*).	Hume Coll.
l–*o*. ♂ ad.; *p*–*v*. ♀ ad. et imm. sk.	Amherst, Dec., Jan., March, July (*W. Davison*).	Hume Coll.
w, *x*, *y*. ♂ ♀ ad. sk.	Mergui, June, Nov. (*W. Davison*).	Hume Coll.
z. ♀ ad. sk.	Kolan Island, Mergui Archip., Dec. (*W. Davison*).	Hume Coll.

a', *b'*. Ad. sk.	Siam.	Gould Coll.
c'. ♂ ad. sk.	Tonka, Jan. (*J. Darling*).	Hume Coll.
d'. ♀ ad. sk.	Tapraw, April (*J. Darling*).	Hume Coll.
e'. ♀ ad. sk.	Singapore Island, Feb. (*W. D.*).	Hume Coll.
f'. ♂ ad. sk.	Acheen, Sumatra, Feb. (*W. D.*).	Hume Coll.
g'. ♂ ad. sk.	Omadal Island, N. Borneo, April.	Dr. A. McKinlay [P.].

Subsp. β. Halcyon vidali.

Halcyon chloris (*nec Bodd.*), *Hume, Str. F.* vii. p. 168 (1878: S. Konkan); *Vidal, op. cit.* viii. p. 414 (1879); *Hume, t. c.* p. 86 (1879, pt.); *Vidal, op. cit.* ix. p. 50 (1880: Ratnagiri); *Butler, Cat. B. S. Bomb. Pres.* p. 19 (1880).

Adult male. Similar to *H. chloris*, and bright greenish blue on the back, wings, and tail; below white with a creamy-buff tinge; no black nuchal band; ear-coverts green. Total length 10·2 inches, culmen 2·1, wing 4·4, tail 3, tarsus 0·6.

Adult female. Resembles the adult male in colour and has similar green cheeks. Total length 10·5 inches, culmen 2·1, wing 4·5, tail 2·75, tarsus 0·65.

Hab. South Konkan, Western India.

a–d. ♂ ad.; *e*, *f*. ♀ ad. sk.	Ratnagiri, S. Konkan, Oct., Nov. (*G. Vidal*).	Hume Coll.
g, *h*. ♂ ad.; *i*. ♀ ad. sk.	Kelshi Creek, Feb. (*G. Vidal*).	Hume Coll.

Subsp. γ. Halcyon abyssinicus.

Ceryle abyssinica, *Licht. Nomencl. Av.* p. 67 (1854; *ex Hempr. & Ehr. MSS.*).

Dacelo chloris, *Heugl. Orn. N.O.-Afr.* i. p. 194 (1869).

Halcyon chloris (*nec Bodd.*), *Finsch, Tr. Z. S.* vii. p. 222 (1870); *id. & Hartl. Vög. Ostafr.* p. 165 (1870); *Antin. & Salvad. Viagg. Bogos*, p. 68 (1873: Massowa).

Halcyon abyssinica, *Pelz. Sitz. k. Akad. Wien*, xx. p. 500 (1856); *id. Reis. Novara, Vög.* p. 46 (1865).

Adult. Similar to *H. chloris*, but very much greener, with green wings and tail; no black nuchal collar; ear-coverts green; underneath entirely white: "upper mandible and edges and tip of lower mandible horny black, the lower mandible fleshy white at the base; feet pale dusky fleshy; iris umber-brown" (*Heuglin*). Total length 5·2 inches, culmen 2, wing 4·1, tail 2·7, tarsus 0·55.

Hab. Coast of the Red Sea.

a. Ad.; *b*. ♀ ad. sk.	Zoulla, Abyssinia, March (*W. Jesse*).	Tweeddale Coll.

44. Halcyon sordidus.

Halcyon sordidus, *Gould, P. Z. S.* 1842, p. 72; *id. B. Austr.* fol. ii. pl. 23 (1848); *Gray, Gen. B.* i. p. 79 (1846); *Reichenb. Vög. Neuholl.* p. 20·) (1850); *Gray, Hand-l. B.* i. p. 92, no. 1114 (1869); *Sharpe, Monogr. Alced.* p. 233, pl. 88 (1870); *Diggles, Orn. Aust* pl. (c. 1870); *Ramsay, Proc. Linn. Soc. N. S. W.* ii. p. 179 (1878);

Sharpe, Voy. H.M.S. 'Alert,' p. 24 (1884); *Ramsay, Tab. List Austr. B.* p. 3 (1888).

Todirhamphus sordidus, *Bp. Consp.* i. p. 157 (1850); *Reichenb. Handb., Alced.* p. 32, Taf. 419. figs. 3136–37 (1851); *Cass. Cat. Halcyon. Philad. Mus.* p. 12 (1852); *Bp. Consp. Volucr. Anis.* p. 9 (1854); *Cass. U.S. Expl. Exped.* p. 212 (1858); *Gould, Handb. B. Austr.* i. p. 132 (1865); *Masters, Proc. Linn. Soc. N. S. W.* i. p. 47 (1876); *id. op. cit.* ii. p 270 (1877: Port Darwin).

Halcyon sordida, var., *Gray, P. Z. S.* 1858, p. 172.

Sauropatis sordida, *Cab. & Heine, Mus. Hein.* Th. ii. p. 59 (1860).

Sauropatis grayi, *iid. t. c.* p. 59 (1860).

Halcyon grayi, *Gray, Hand-l. B.* i. p. 92, no. 1115 (1869).

Adult male. Similar to *H. chloris*, but of a dusky olive-green on the head, mantle, scapulars, and back; the lower back, rump, and upper tail-coverts more greenish blue; wing-coverts like the mantle, but the greater coverts and outer aspect of the quills deep ultramarine-blue; tail also blue; a small loral spot of white, but no trace of a white eyebrow; eyelid black, with a small white spot below the eye; sides of face and ear-coverts black, faintly washed with olive-green; sides of body white, with a black patch on the sides of the upper breast; round the hind neck a broad white collar, separated from the crown by a line of black; the upper mantle also divided from the white collar by a blackish shade; a concealed occipital spot of white: "upper mandible and tip of lower one black, the base of the latter fleshy white." Total length 10 inches, culmen 2·4, wing 4·4, tail 3, tarsus 0·6.

Young. Differs from the adult in having dusky fringes to the feathers of the sides of the face, hind neck, and under surface of body.

Hab. North-eastern and Northern Australia, the Louisiade Islands, and the Aru Islands.

a–c. Ad. sk.	Moreton Bay, Queensland (*F. Strange*).	Gould Coll.
d, e. Ad. et imm. sk.	Moreton Bay (*Sharpe Coll.*).	Tweeddale Coll.
f–i. Ad. et imm. sk.	Cape York (*J. T. Cockerell*).	Salvin-Godman Coll.
k. Ad. sk.	Port Darwin, Nov. (*Dr. Coppinger*).	Voy. of H.M.S. 'Alert.'
l, m. ♂ ♀ ad. sk.	Hope Islands, July 19 (*J. Macgillivray*).	Capt. Stanley [P.].
n. ♂ ad. sk.	Louisiade Islands, July 26.	J. Macgillivray [C.].
o, p. Ad. et juv. sk.	Aru Islands (*A. R. Wallace*).	Gould Coll.
q. ♀ ad. sk.	Dobbo, Aru Islands.	Voy. of H.M.S. 'Challenger.'

45. Halcyon forsteni.

Halcyon forsteni, *Bp. Consp.* i. p. 157 (1850; *ex Temm. MSS.*); *Gray, Hand-l. B.* i. p. 93, no. 1128 (1869); *Sharpe, Monogr. Alced.* p. 235, pl. 89 (1870).

Dacelo forsteni, *Schl. Mus. Pays-Bas*, Alced. p. 37 (1863); *id. Voy. Nederl. Ind.*, Alced. pp. 29, 60, pl. 11. fig. 1 (1864); *id. Revue*, Alced. p. 23 (1874).

Sauropatis forsteni, *Wald. Tr. Z. S.* viii. p. 44 (1872).

Adult (type of species). Head dark green, lighter along the sides of the crown and towards the nape; ear-coverts and nape very dark green, almost black; back and scapulars deep green; wing-coverts green, inclining to blue; quills black, lighter at the base, edged externally with greenish blue; tail greenish blue above, black beneath; cheeks, a collar round the neck, and entire under surface of body white, blotched with greenish black, not so marked on the throat, which is white; a small loral spot of white; under wing-coverts blue: upper mandible black, the lower one pale yellow, black towards the tip. Total length 9 inches, culmen 1·9, wing 4·2, tail 2·6, tarsus 0·4.

Hab. Celebes.

Since the typical specimen was discovered by Forsten at Gorontalo, no traveller has met with the species, and it is doubtful if it is more than an accidental variety of *H. chloris*. Professor Schlegel took this view in his 'Revue,' p. 22.

46. **Halcyon solomonis.** (Plate VII. fig. 2.)

Halcyon chloris (*nec Bodd.*), *Scl. P. Z. S.* 1873, p. 3 (New Ireland); *id. P. Z. S.* 1877, p. 105; *Cab. & Reichen. J. f. O.* 1876, p. 323 ('Gazelle' Exped.); *Salvad. Ibis*, 1880, p. 127; *Finsch, Ibis*, 1881, p. 536 (New Britain); *id. Vög. der Südsee*, p. 8 (1884).

Todirhamphus chloris, *Scl. P. Z. S.* 1869, p. 121.

Halcyon juliæ (*nec Heine*), *Tristr. Ibis*, 1879, p. 348 (San Cristoval).

Halcyon chloris, var., *Ramsay, Proc. Linn. Soc. N. S. W.* iv. p. 67 (1879: Guadalcanar).

Halcyon salamonis, *Ramsay, Proc. Linn. Soc. N. S. W.* vii. p. 21 (1882: Ugi; S. Cristoval).

Sauropatis juliæ, pt., *Salvad. Orn. Papuasia*, iii. App. p. 524 (1882).

Sauropatis salomonis, *Salvad. Ann. Mus. Civic. Genov.* xviii. p. 420 (1882).

Adult female (one of the typical specimens). Allied to *H. chloris*, and having black ear-coverts continued in a very broad nuchal collar; white occipital patch obsolete; mantle conspicuously black, below the white nuchal collar; head bright greenish blue, the sides of the hinder crown brighter blue; lores and a narrow streak above the eye white; cheeks and under surface of body pure white. Total length 8·5 inches, culmen 1·8, wing 3·6, tail 2·5, tarsus 0·5.

Hab. Solomon Islands, Louisiades, New Britain, New Ireland, and the New Hebrides.

a. Ad. sk.	Louisiades.	Gould Coll.
b. ♂ ad. sk.	New Britain (*G. Brown*).	Tweeddale Coll.
c. Ad. sk.	New Ireland.	P. L. Sclater, Esq. [P.].
d. Ad. sk.	Ugi, Solomon Islands.	J. Brenchley, Esq. [P.].
e. ♀ ad. sk.	Ugi, Solomon Islands.	Mr. J. T. Cockerell [C.].
f. Ad. sk.	Solomon Islands (*J. Brazier*).	Tweeddale Coll.
g. ♀ imm. sk.	Aneiteum, New Hebrides, Oct. 19.	J. Macgillivray [C.].
h. ♀ ad. sk.	Api, New Hebrides.	Voy. of H.M.S. 'Challenger.'

47. Halcyon suvensis.

Male (not quite adult). Similar to *H. solomonis*, but smaller, and having the same broad black band enclosing the ear-coverts and joining a broad nuchal collar of black; the lores and feathers below the eye are also black, whereas in *H. solomonis* they are green. The entire mantle is blackish. "Bill black, white towards the base of the lower mandible; feet black; iris black" (*E. L. Layard*). Total length 8 inches, culmen 1·6, wing 3·6, tail 2·45, tarsus 0·6.

The lower flanks, vent, and under tail-coverts are tinged with fulvous, but this may be a sign of immaturity.

Hab. Suva, Fiji Archipelago.

a. ♂ ad. sk.	Suva, Feb. 22 (*E. L. Layard*).	Tweeddale Coll.

48. Halcyon humii. (Plate VIII.)

Halcyon chloris, *Sharpe, Monogr. Alced.* p. 229 (1870, pt.); *Hume, Str. F.* viii. p. 49 (1879); *Kelham, Ibis*, 1881, p. 381 (Perak).
Todirhamphus collaris, *Moore, P. Z. S.* 1854, p. 269 (Penang).

Adult male. General colour above bright blue, the lower back, rump, and upper tail-coverts deep cobalt; wing-coverts brilliant blue; outer aspect of quills and tail deep rich ultramarine; crown of head bright blue like the mantle; lores white, connected with a narrow line of white above the eye; below the eye a white spot; on the occiput a concealed patch of white; ear-coverts bright blue like the crown; the nuchal collar, separating the occipital patch from the white hind neck, also blue, like the ear-coverts, with which the collar is continuous; round the neck a broad white collar; cheeks and under surface of body white, with an orange-buff tinge on the sides of the body and flanks. Total length 8·5 inches, culmen 1·8, wing 3·9, tail 2·6, tarsus 0·6.

Adult female. Similar to the male, but not quite so bright and a little greener; the ear-coverts as bright as the crown. Total length 8·5 inches, culmen 1·9, wing 4·15, tail 2·7, tarsus 0·65.

The fulvescent tinge on the flanks in female birds is often almost obsolete.

A specimen from Penang has the entire sides of the body orange-buff, and it is probable that the young birds are even more tawny on the flanks than the adults, as there are in this individual some signs of dusky margins to the feathers of the white cervical collar.

Hab. From Siam to the Malayan Peninsula and Sumatra.

a. ♂ ad. sk.	Bangkok, Siam, April (*Capt. Conrad*).	Sharpe Coll.
b. Ad. sk.	Siam (*Sir R. Schomburgk*).	Gould Coll.
c, d. ♂ ad. sk.	Mergui, Tenasserim, June, Dec. (*W. Davison*).	Hume Coll.
e. ♂ ad. sk.	Tonka, Jan. (*J. Darling*).	Hume Coll.
f, g. ♂ ad.; *h*. ♀ ad. sk.	Tapraw, April (*J. Darling*).	Hume Coll.
i, k. Ad. sk.	Penang (*Sharpe Coll.*).	Tweeddale Coll.

l–*s*. ♂ ad. et juv.; *t*–*x*. ♀ ad.etimm.sk.	Jaram, Salangore, Dec., Jan., Aug. (*W. Davison*).	Hume Coll.
y, *z*. ♂ ad.; *a'*. ♀ ad. sk.	Klang, May (*W. Davison*).	Hume Coll.
b'–*d'*. ♂ ad. et imm.; *e'*. ♀ ad. sk.	Dingding Islands, March (*W. Davison*).	Hume Coll.
f'–*i'*. Imm. sk.	Malacca, Aug. (*W. Davison*).	Hume Coll.
k', *l'*. Ad. sk.	Malacca, May (*Dr. Maingay*).	Tweeddale Coll.
m'. ♀ ad. sk.	Pulo Nongsa, Nov. 27 (*W. Davison*).	Hume Coll.
n'. ♂ ad. sk.	Singapore Island, Feb. (*W. D.*).	Hume Coll.
o'. Ad. sk.	Alligator's Island, Singapore, Jan. 20.	Dr. A. McKinlay [P.].
p'. ♂ ad. sk.	Acheen, Sumatra, Feb. 4 (*W. D.*).	Hume Coll.
q', *r'*. Ad. sk.	Sumatra (*C. Bock*).	Tweeddale Coll.

Subsp. *a*. **Halcyon meyeri.**

Adult. Similar to *H. davisoni* from the Andamans, and like that species having black ear-coverts and a black nuchal collar, but having only the sides of the body washed with fulvous as in *H. humii* of the Malayan Peninsula. It differs from both the above species in having the bill upturned at the tip in a very conspicuous manner. Total length 8·5 inches, culmen 2·1, wing 4·1, tail 2·6, tarsus 0·55.

Hab. Togian Islands.

a, *b*. Ad. sk.	Togian Islands (*Dr. A. B. Meyer*).	Tweeddale Coll.

Subsp. *β*. **Halcyon davisoni.**

Todirhamphus collaris (*nec Swains.*), *Wald. P. Z. S.* 1866, p. 554; *Beavan, Ibis*, 1866, p. 221, 1867, p. 319, 1869, p. 409.

Halcyon chloris (*nec Bodd.*), *Ball, Str. F.* i. p. 58 (1873); *Hume, Str. F.* ii. p. 170 (1874).

Todirhamphus collaris (*nec Swains.*), *Blyth, Ibis*, 1859, p. 465 (Andamans).

Sauropatis chloris, *Wald. Ibis*, 1873, p. 302 (S. Andamans).

Adult male. Similar to *H. humii*, but having black ear-coverts and a very distinct black nuchal collar continuous with the ear-coverts; the mantle shaded with black below the white cervical collar; cheeks and throat white; breast and remainder of underparts fulvescent, deepening towards the lower flanks and under tail-coverts: "upper mandible, tip and edge of lower mandible greenish black: rest of lower mandible pinkish white; legs and feet plumbeous in front, behind and the soles in some bluish, in some pinkish grey; iris deep brown" (*A. O. Hume*). Total length 9 inches, culmen 1·8, wing 3·9, tail 2·75, tarsus 0·55.

Adult female. Similar to the male, but a little greener on the upper parts. Total length 8·5 inches, culmen 1·7, wing 3·9, tail 2·7, tarsus 0·55.

Hab. Andaman Islands.

a–d. ♂ ad.; *e*, *f.* ♀ ad. sk.	Little Coco Islands, March (*W. Davison*).	Hume Coll.
g. Ad. sk.	Andamans, June (*R. C. Beavan*).	Tweeddale Coll.
h, *i.* ♂ imm.; *k*, *l*, *m.* ♀ imm. sk.	South Andamans, June, July, Aug. (*R. J. Wimberley & W. Davison*).	Hume Coll.
n, *o*, *p.* ♂ ad.; *q.* ♀ ad. sk.	South Andamans, Jan., Feb., March (*R. G. W. R.*).	Tweeddale Coll.
r. ♀ ad. sk.	Sound Island, April 5 (*W. Davison*).	Hume Coll.
s. ♂ ad. sk.	Ross Island, Dec. (*R. G. W. R.*).	Tweeddale Coll.
t. ♂ imm. sk.	Viper Island, Dec. (*W. Davison*).	Hume Coll.
u, *v.* Imm. sk.	Port Blair, March.	Hume Coll.
w, *x.* ♂ ad. sk.	Port Mouat, Jan., April (*W. Davison*).	Hume Coll.
y–b'. ♂ ♀ ad. et imm. sk.	Hope Town, Dec. (*W. Davison*).	Hume Coll.
c'–f'. ♂ ad.; *g'.* ♀ ad. sk.	Aberdeen, Dec., March, April (*W. Davison*: *F. A. de Roepstorff*).	Hume Coll.
h', *i'.* ♂ ad. sk.	Mount Harriet, Dec., March (*W. Davison*).	Hume Coll.

49. **Halcyon funebris.**

Todirhamphus funebris, *Bp. Consp.* i. p. 151 (1850; *ex Forsten, MSS.*); *Reichenb. Handb., Alced.* p. 30 (1851); *Cass. U. S. Expl. Exped.* p. 225 (1858); *Wald. Ibis*, 1860, p. 198; *id. Trans. Z. S.* viii. p. 44 (1872).

Cyanalcyon funebris, *Bp. Consp. Volucr. Anis.* p. 9 (1854).

Halcyon funebris, *Gray, P. Z. S.* 1860, p. 346; *id. Hand-l. B.* i. p. 93, no. 1126 (1869); *Sharpe, Monogr. Alced.* p. 243, pl. 92 (1870).

Dacelo funebris, *Schl. Mus. P.-B.* Alced. p. 40 (1863); *id. Voy. Ned. Ind.* Alced. pp. 29, 60, pl. xi. fig. 2 (1864); *Finsch, Neu-Guinea*, p. 161 (1865); *Schl. Mus. P.-B.* Alced. *Revue*, p. 30 (1874).

Sauropatis funebris, *Salvad. Ann. Mus. Genov.* x. p. 306 (1877); *id. Orn. Papuasia etc.* i. p. 480 (1880).

Adult. General colour above dark brown with greenish shades, a little more distinct on the rump and upper tail-coverts; wings like the back, the quills and tail-feathers brown shaded externally with green; crown of head black, with scarcely any shade of green excepting on the nape; a loral spot of white, shot with blue; from above the eye a broad white band encircling the nape and tinged with blue; sides of face and ear-coverts black, forming a band which encircles the hind neck, and is separated from the mantle by a broad white collar; cheeks and entire under surface of body white, with a patch of brown on the lower flanks; on the white of the underparts there is a distinct shade of green under certain lights. Total length 11·5 inches, culmen 2·2, wing 4·65, tail 3·55, tarsus 0·65.

Young. Similar to the adult, but having the white feathers of the collar on the neck and underparts edged with black; bill black, with a horny white tip to both mandibles.

Hab. Islands of Halmahéra and Ternate.

a, *b*. Ad. ; *c*. Juv. sk.	Halmahéra.	Wallace Coll.
d, *e*. Ad. sk.	Halmahéra (*A. R. Wallace* : *Sharpe Coll.*).	Tweeddale Coll.
f. Ad. sk.	Ternate (*A. R. Wallace*).	Gould Coll.

50. Halcyon hombroni.

Actenoide variée, *Hombr. & Jacq. Voy. Pôle Sud*, pl. 23. fig. 2 (1846).

Actenoides variegata (*nec Bonn.*), *Jacq. & Pucher. Voy. Pôle Sud, Zool.* iii. p. 101 (1853).

Actenoides hombroni, *Bp. Consp.* i. p. 157 (1850) ; *Reichenb. Handb., Alced.* p. 36, Taf. 422. fig. 3147 (1851) ; *Bp. Consp. Volucr. Anis.* p. 9 (1854) ; *Walden, Tr. Z. S.* ix. p. 155 (1875) ; *Gould, B. Asia*, i. pl. 40 (1877) ; *Tweedd. P. Z. S.* 1878, p. 994 ; *Steere, List B. & Mamm. Steere Exped. Philipp.* p. 11 (1890 : Mindanao).

Halcyon hombroni, *Gray, Hand-l. B.* i. p. 93, no. 1136 (1869) ; *Sharpe, Monogr. Alced.* p. 221, pl. 84 (1871) ; *id. Trans. Linn. Soc.* 2nd ser. *Zool.* i. p. 318 (1876).

Adult male. Head and nape bright blue, more brilliant on the sides of the head, above the eye, and on the nape ; round the latter a narrow line of deep black ; ear-coverts chestnut ; along the lower line of the lores a streak of black, reaching below the eye, and widening behind the latter, being here washed with blue ; cheeks bright blue, forming a broad band ; sides of neck and hinder part of the latter deep tawny, varied with narrow black edgings to the feathers ; mantle blackish, mottled with spots of tawny buff, these being subterminal, with a narrow fringe of black ; centre of back, scapulars, and wing-coverts green, with a slight shade of verditer, each feather having a distinct subterminal spot of ochraceous buff ; quills blackish, externally washed with greenish, the primaries edged with ochraceous, the secondaries with the same subterminal spot of ochre as on the wing-coverts ; lower back, rump, and upper tail-coverts bright silvery cobalt, the sides of the back and the lateral coverts blackish washed with blue ; tail-feathers deep blue, with black shafts ; throat white, slightly washed with tawny ; rest of the under surface deep tawny, whiter on the centre of the abdomen ; the breast-feathers with narrow, nearly obsolete, blackish margins ; thighs externally blackish, internally deep tawny ; feathers at side of vent, adjoining the sides of the lower back, deep blue, the outer web more or less ochraceous ; under wing-coverts and axillaries deep tawny ; quills blackish below, edged with pale tawny buff along the inner web. Total length 11·3 inches, culmen 2, wing 4·95, tail 4·15, tarsus 0·75.

Hab. Island of Mindanao in the Philippine Archipelago.

a. ♂ ad. sk.	Ayala, Mindanao, Oct 22.	F. S. Bourns, Esq. [P.].
b, *c*. ♂ ; *d*. ♀ imm. sk.	Zamboanga, April (*A. H. Everett*).	Tweeddale Coll.

51. Halcyon concretus.

Dacelo concreta, *Temm. Pl. Col.* iv. pl. 346 (1825); *Schl. Mus. P.-B.* Alced. p. 26 (1863); *id. Vog. Nederl. Ind.* pp. 25, 57, pl. viii. figs. 2, 3 (1864); *Swinh. Ibis*, 1873, p. 231 (Penang); *Schl. Revue*, p. 18 (1874).

Halcyon varia, *Eyton, P. Z. S.* 1839, p. 101.

Todirhamphus varius, *Blyth, J. A. S. Beng.* xv. p. 11 (1846); *id. Cat. B. Mus. As. Soc.* p. 47 (1849); *Cass. U. S. Expl. Exped., Birds*, p. 233 (1858).

Halcyon concreta, *Gray, Gen. B.* i. p. 79 (1846); *id. List Fissir. Brit. Mus.* p. 52 (1848); *Bp. Consp.* i. p. 154 (1850); *Cass. Cat. Hale. Philad. Mus.* p. 11 (1852); *Gray, Hand-l. B.* i. p. 93, no. 1134 (1869); *Sharpe, Monogr. Alced.* p. 219, pl. 83 (1870); *id. Ibis*, 1878, p. 414 (Sarawak); *Hume & Davison, Str. F.* vi. p. 78 (1878: Tenasserim); *Hume, Str. F.* viii. pp. 49 (Malacca), 86 (1879); *Sharpe, P. Z. S.* 1881, p. 793 (Sandakan); *Nichols. Ibis*, 1883, p. 87 (Segilind River); *Oates, Handb. B. Brit. Burm.* ii. p. 84 (1883); *Guillem. P. Z. S.* 1885, p. 447 (Silam); *Sharpe, P. Z. S.* 1887, p. 432 (Perak); *id. Ibis*, 1890, pp. 21, 283 (Benkoka).

Paralcyon concreta, *Reichenb. Handb., Alced.* p. 36, Taf. 421. fig. 3145*, Taf. 422. figs. 3145–46 (1851).

Caridagrus concretus, *Cab. & Heine, Mus. Hein.* Th. ii. p. 161 (1860); *Salvad. Ucc. Born.* p. 102 (1874); *Vorderm. Nat. Tijdschr. Nederl. Ind.* xlvi. p. 11 (1886); *id. op. cit.* l. p. 437 (1890).

Actenoides concretus, *Gould, B. Asia*, i. pl. 42 (1877).

Adult male. General colour above dark ultramarine, the scapulars and wing-coverts like the upper back; the mantle blackish; centre of back, rump, and upper tail-coverts bright cobalt-blue, the lateral tail-coverts and sides of the back ultramarine like the mantle; quills blackish, externally deep blue like the back; tail-feathers dark blue; crown of head dusky green; lores black, with a supraloral streak of cinnamon, extending above the eye; sides of hinder crown bright green, continued in a blue band round the nape; ear-coverts black, continued into a band which encircles the hind neck, and is followed by a broad band of bright cinnamon, like the under surface of the body; cheeks and sides of throat bright blue, forming a broad band, which is separated from the black ear-coverts by a broad band of light cinnamon; centre of abdomen isabelline; under wing-coverts and axillaries cinnamon, like the breast: "bill black, with the sides of the upper mandible, the whole of the lower mandible, gape, and edge of eyelids chrome-yellow; feet chrome-yellow" (*W. Davison*). Total length 9 inches, culmen 2, wing 4·2, tail 2·25, tarsus 0·7.

Adult female. Differs from the male in being green on the back and wings instead of blue, the scapulars and wing-coverts spotted with ochraceous buff; the bright band which skirts the side of the crown and surrounds the nape of the male is green instead of blue in the female: "feet and claws dirty greenish chrome-yellow;

iris dark brown" (*W. Davison*). Total length 9·5 inches, culmen 1·9, wing 4·45, tail 2·4, tarsus 0·7.

Young male. Coloured like the adult, but of course very much duller; the crown olive-green, with a band round the nape of bluish green.

Hab. From Southern Tenasserim, down the Malayan Peninsula to Sumatra and Borneo.

a–e. ♀ ad. et imm. sk.	Bankasoon, Tenasserim, Dec., May, June (*W. Davison*).	Hume Coll.
f, g. ♂ ♀ ad. sk.	Malewoon, Feb.	Oates Coll.
h, i. ♂ ad. sk.	Malewoon, March, April (*W. Davison*).	Hume Coll.
k. ♂ ad. sk.	Penang.	Gould Coll.
l. ♂ ad. sk.	Perak.	L. Wray, Esq. [P.].
m, n, o. ♂ ad. sk.	Klang, Feb., March, Sept. (*W. Davison*).	Hume Coll.
p, q. ♂ ♀ ad. st.	Malacca.	Purchased.
r. Juv. sk.	Malacca (*Dr. Cantor*).	India Museum.
s, t. ♂ ad.; *u, v.* ♀ ad. sk.	Malacca (*Dr. Maingay*: *R. G. W. R.*).	Tweeddale Coll.
w, x. ♂ ♀ ad. sk.	Malacca.	Pinwill Coll.
y. ♂ ad. sk.	Malacca.	Wallace Coll.
z–d'. ♂ ad. et imm.; *e'.* ♀ ad. sk.	Malacca, Feb., July, Sept. (*W. Davison*).	Hume Coll.
f'. ♀ ad. sk.	Singapore.	Hume Coll.
g'. ♀ ad. st.	Sumatra.	Purchased.
h'. ♂ ad. sk.	Sumatra (*Sharpe Coll.*).	Tweeddale Coll.
i'. ♂ ad. sk.	Sumatra, Sept. 16 (*Carl Bock*).	Tweeddale Coll.
k'. ♀ ad. sk.	Sumatra.	Gould Coll.
l'. ♂ imm. sk.	Sarawak.	Governor Ussher [C.].
m'. ♀ imm. sk.	Busan, Sarawak, Aug. (*A. H. Everett*).	Gould Coll.
n'. ♂ ad. sk.	Trusan, Sarawak, March.	A. H. Everett, Esq. [C.].

52. **Halcyon lindsayi.**

Dacelo lindsayi, *Vig. P. Z. S.* 1831, p. 97; *Eyd. & Souleyet, Voy. 'Bonite,' Zool.* p. 100 (1841); *Schl. Mus. Pays-Bas,* Alced. p. 23 (1863).

Dacelo lessoni, *Vig. P. Z. S.* 1831, p. 97.

Halcyon lindsayi, *Gray, Gen. B.* i. p. 79, pl. 27 (1846); *id. List Fissir. Brit. Mus.* p. 52 (1848); *Bp. Consp.* i. p. 154 (1850); *Gray, Hand-l. B.* i. p. 93, no. 1135 (1869); *Sharpe, Monogr. Alced.* p. 217, pl. 82 (1871).

Paralcyon lindsayi, *Reichenb. Handb., Alced.* p. 36, Taf. 421. figs. 3143–44 (1851); *Bp. Consp. Volucr. Anis.* p. 9 (1854).

Actenoides lessoni, *Hartl. J. f. O.* 1854, p. 64.

Astacophilus lindsayi, *Cab. & Heine, Mus. Hein.* Th. ii. p. 162 (1860).

Alcedo lindsayi, *Martens, J. f. O.* 1864, p. 18; *id. Preuss. Exp. Ost-Asien,* p. 189 (1865).

Actenoides lindsayi, *Walden, Tr. Z. S.* ix. p. 156 (1875: Luzon);

Gould, B. Asia, i. pl. 41 (1877); *Steere, List B. & Mamm. Steere Exped. Philipp.* p. 11 (1890).

Adult male. General colour above green, a little brighter on the centre of the lower back, rump, and upper tail-coverts; the lateral upper tail-coverts and the sides of the lower back and rump dingy green, the scapulars, mantle, and wing-coverts each having a distinct spot of ochreous buff; quills brown, externally edged with fulvous, the secondaries greener, and terminally spotted with ochre like the scapulars; tail-feathers dull greenish brown, fringed with sandy buff at the ends, the penultimate feather notched with buff on the inner web, the outermost one on both webs, producing a banded appearance; head green, the forehead with a few cinnamon feathers; lores black, surmounted by a streak of pale cinnamon-buff feathers reaching above the eye and continued into a line of bright cobalt, which encircles the hinder crown and nape; feathers round the eye black, continued into a band which encircles the hind neck, and is followed by a band of cinnamon feathers, fringed with black; sides of face and ear-coverts cinnamon; throat also pale cinnamon, separated from the band on the sides of the face by a broad band of bright cobalt, which occupies the cheeks and lateral margin of the throat; fore neck and breast mottled, the feathers being white, margined with green, the green edges diminishing in size on the lower breast, till they gradually disappear on the abdomen, which, with the under tail-feathers, is pure white; sides of body like the breast; thighs blackish, tipped with ochre; under wing-coverts, axillaries, and quill-lining fawn-buff: "bill black, the culmen and under mandible yellow; feet light green; iris brown" (*A. W. Everett*). Total length 9·5 inches, culmen 1·85, wing 4·2, tail 3·1, tarsus 0·65.

Adult female. Resembles the male, but the band encircling the crown is green instead of blue; the broad band on the cheeks is also green, not blue; the throat is white, and the green edgings to the breast-feathers are less pronounced: "bill black, the culmen and mandible chrome-yellow; feet light green; claws horn-yellow; iris brown" (*A. H. Everett*). Total length 9·8 inches, culmen 1·85, wing 4·3, tail 3·5, tarsus 0·65.

Young male. Like the adult male, but with smaller ochreous spots on the upper surface; the band round the crown and the cheek-stripe not so blue as in the adult, but not so green as in the female; under surface as in the adult, but with a fulvescent tinge throughout.

Young female. Duller than the adult female, and with smaller ochreous spots; otherwise like the old female, and having a green band round the crown.

Hab. Island of Luzon in the Philippine Archipelago.

a. ♂ ad. st.	Philippine Islands.	Zoological Society. (Type of species.)
b, *c*. ♀ ad.; *d*. ♂ juv. st.	Philippine Islands.	Purchased.

e. ♀ juv. sk.	Philippine Islands.	Purchased.
f, *g*. ♀ ad. sk.	Philippine Islands.	Eyton Coll.
h, *i*. ♀ ad. et juv. sk.	Philippine Islands (*Sharpe Coll.*).	Tweeddale Coll.
k, *l*. ♂ ♀ ad. sk.	Manila.	Gould Coll.
m, *n*. ♂ ♀ ad. sk.	Manila (*Maitland Heriot*).	Tweeddale Coll.
o. ♂ ad. st.	Cataguan.	Purchased.
p. ♂ ad. sk.	Monte Alban, Luzon, Feb. (*A. H. Everett*).	Tweeddale Coll.
q. ♀ ad. sk.	San Mateo, Luzon, Feb. (*A. H. Everett*).	Tweeddale Coll.

53. Halcyon moseleyi.

Actenoides moseleyi, *Steere, List Birds & Mamm. Steere Exped. Philipp.* p. 11 (1890: Negros).

Immature female (type of species). Similar to *H. lindsayi*, but distinguished by the edgings of the breast-feathers, which are black and not green: "bill black, culmen and lower mandible yellow; legs and feet greenish" (*E. L. Moseley*). Total length 10·4 inches, culmen 1·8, wing 4·3, tail 3·4, tarsus 0·55.

Hab. Island of Negros in the Philippine Archipelago.

17. TODIRHAMPHUS.

	Type.
Todirhamphus, *Lesson, Mem. Soc. d'Hist. Nat.* iii. p. 420 (1828)	T. veneratus.
Coporhamphus, *Gloger, Handb.* p. 338 (1842)	T. veneratus.

Range. South Sea Islands. Samoan and Society groups.

Key to the Species.

a. No white collar round the hind neck.
  a'. Above green, or brown with a green shade. *veneratus*, p. 288.
  b'. Above brown; collar on fore neck also brown. *youngi*, p. 289.
b. A white or fulvous collar round the hind neck.
  c'. Underneath fulvous or ochreous buff ..... *recurvirostris*, p. 290.
  d'. Underneath entirely white ..... *tutus*, p. 291.

1. Todirhamphus veneratus.

Venerated Kingfisher, *Lath. Gen. Syn.* i. pt. 2, p. 623 (1782).

Alcedo venerata, *Gm. S. N.* i. p. 453 (1788); *Lath. Ind. Orn.* i. p. 251 (1790).

Todirhamphus divina, *Less. Voy. Coquille*, i. pt. 1, p. 287 (1826); *id. Mém. Soc. d'Hist. Nat.* iii. p. 419, pl. 12 (1827); *id. Traité d'Orn.* p. 250 (1831); *Reichenb. Handb., Alced.* p. 34 (1851); *Cass. Cat. Halcyon. Philad. Mus.* p. 12 (1852); *id. U.S. Expl. Exped.* pp. 199, 217, pl. 18 (1858).

Alcedo collaris (*nec Scop.*), *Forster, Descr. Anim.* p. 162 (1844).

Halcyon venerata, *Gray, Gen. B.* i. p. 79 (1846); *id. Cat. B. Trop. Isl. Pacific Ocean*, p. 6 (1859); *Pelz. Sitz. k. Akad. Wien*, xx. p. 503 (1856); *id. Reis. Novara, Vög.* p. 47 (1865); *Finsch & Hartl. Faun. Central-Polyn.* p. 43 (1867).

Halcyon tuta (err.), *Gray, Gen. B.* i. p. 79 (1846); *id. List Fissir. Brit. Mus.* p. 58 (1848).

Dacelo nullitorques, *Peale, U.S. Expl. Exped.* p. 155, pl. 42. fig. 1 (1848); *Hartl. Arch. f. Naturg.* 1852, p. 110.

Todirhamphus veneratus, *Reichenb. Handb., Alced.* p. 33 (1851); *Sharpe, Monog. Alced.* p. 245, pl. 93 (1870); *Pelz. Ibis*, 1873, p. 20 (type; Friendly Islands).

Halcyon sacra, pt., *Gray, Cat. B. Trop. Isl. Pacific Ocean*, p. 6 (1859).

Coporhamphus veneratus, *Cab. & Heine, Mus. Hein.* Th. ii. p. 160 (1860).

Adult male. Above green, with a slight olive tint, especially on the back and scapulars; lores black, with a supraloral streak of white; sides of face and ear-coverts verdigris-green, as well as a broad but not very well-defined eyebrow; wings and tail rather more bluish green than the back; cheeks and under surface of body white, tinged with buff on the throat and chest, the sides of the upper breast mottled with black streaks and bars; under wing-coverts and axillaries white. Total length 7·3 inches, culmen 1·3, wing 3·8, tail 2·7, tarsus 0·6.

Adult female. Does not differ from the male in colour. Total length 7·7 inches, culmen 1·25, wing 3·7, tail 2·6, tarsus 0·55.

Young birds are much browner than the adults, but show very little trace of the pale margins which characterize the immature birds of the various species of *Halcyon*. They have a broad collar of dark brown across the fore neck, and show very little green on the wings or tail. As the adult plumage is assumed the green becomes more prevalent, and the brown band on the neck disappears.

Hab. Society Islands.

a, b. ♂ ♀ imm. sk.	Society Islands (*Sharpe Coll.*).	Tweeddale Coll.
c, d, e. ad. sk.	Society Islands.	Gould Coll.
f–i. ♂; *k.* ♀ ad.; *l.* ♂; *m, n.* ♀ juv. sk.	Tahiti.	Voy. H.M.S. 'Challenger.'
o, p, q. Ad. sk.	Tahiti.	Purchased.

2. Todirhamphus youngi.

Adult. Differs from *T. veneratus* in being brown with a pinkish tinge, especially on the sides of the hinder crown and eyebrow; all the feathers edged with hoary grey; wing-coverts brown, with narrow fringes of ashy grey; quills and tail brown, with a very slight lustre of oily green; ear-coverts like the crown; under surface of body white, with brown centres to a few of the feathers of the throat and chest: "bill blue-black; feet brown: iris dark"

(*J. Young*). Total length 8 inches, culmen 1·45, wing 4, tail 2·8, tarsus 0·65.

Hab. Island of Morea, Society group.

a. Ad. sk.	Morea.	John Young, Esq. [P.].
b. Ad. sk.	[Society Islands.]	Old Coll.

3. Todirhamphus recurvirostris.

Todirhamphus recurvirostris, *Lafr. Rev. Zool.* 1842, p. 134; *Reichenb. Handb., Alced.* p. 35 (1851); *Cass. Cat. Halcyon. Philad. Mus.* p. 11 (1852); *id. U.S. Expl. Exped., Birds*, pp. 158, 216, pl. 17 (1858); *Sharpe, Monogr. Alced.* p. 247, pl. 94 (1870).

Halcyon platyrostris, *Gould, P. Z. S.* 1842, p. 72; *Gray, Gen. B.* i. p. 79 (1846); *id. List Fissir. Brit. Mus.* p. 58 (1848); *id. Cat. B. Trop. Isl. Pacific Ocean*, p. 6 (1859).

Dacelo minima, *Peale, U.S. Expl. Exped.* p. 159, pl. 145 (1848); *Hartl. Arch. f. Naturg.* 1852, p. 111.

Todirhamphus platyrostris, *Bp. Consp.* i. p. 156 (1850).

Coporhamphus recurvirostris, *Cab. & Heine, Mus. Hein.* Th. ii. p. 160 (1860).

Halcyon recurvirostris, *Finsch & Hartl. Faun. Polyn.* p. 41 (1867); *Whitmee, Ibis*, 1875, p. 437.

Halcyon platyrostra, *Seebohm, Trans. Norf. & Norw. Soc.* v. p. 126 (1891).

Adult male. General colour above greenish blue, a little brighter blue on the wings, the quills with dusky blackish ends and inner webs; tail blue, with black shafts to the feathers; crown of head greenish blue, brighter blue along the sides of the crown above the ear-coverts; on the occiput a half-concealed spot of ochreous buff; lores, eyelid, sides of face, and ear-coverts dark green, continued into a band of black round the nape, which is followed by a broad collar of ochreous buff, which is separated from the mantle by a slight blackish shade on the upper part of the latter; above the eye a white spot; at the base of the nostrils a supraloral spot of ochreous buff; cheeks ochreous buff, as also the under surface of the body; chest buff-colour, deeper on the sides of the body; throat and fore-neck white: "bill black, white at base of lower mandible; feet livid flesh-colour; iris brown" (*E. L. Layard*). Total length 7 inches, culmen 1·55, wing 3·15, tail 2·15, tarsus 0·55.

Young. Duller in colour than the adult, and inclining to cinnamon-buff on the lores, sides of neck, hind neck, and underparts, the feathers of the breast and hind neck edged with dusky blackish fringes.

Hab. Samoan Islands.

a, *b*. Ad. sk.	Samoa.	Jardine Coll.
c. Ad. sk.	Samoa.	Gould Coll.
d, *e*, *f*. Ad. et juv. sk.	Samoa.	Rev. S. J. Whitmee [C.].
h. Ad. st.	Samoa.	Rev. J. B. Stair [P.].
g. Ad. sk.	Samoa.	Rev. J. B. Stair [P.].
i. ♂ ad. sk.	Apia, Jan. 2 (*E. L. Layard*).	Tweeddale Coll.
k. ♂ ad. sk.	Upolu (*Graeffe*: *Sharpe Coll.*).	Tweeddale Coll.

4. Todirhamphus tutus.

Respected Kingfisher, *Lath. Gen. Syn.* i. pt. 2, p. 624 (1782).
Alcedo tuta, *Gm. S. N.* i. p. 453 (1788); *Lath. Ind. Orn.* i. p. 251 (1790).
Todirhamphus sacra (*nec Gm.*), *Less. Voy. Coquille*, i. pt. 2, p. 686 (1828); *id. Mém. Soc. d'Hist. Nat.* iii. p. 11 (1828); *id. Traité*, p. 249 (1831); *Reichenb. Handb., Alced.* p. 34, tab. 423. figs. 3148–49 (1851).
Todirhamphus tutus, pt., *Cass. U.S. Expl. Exped.* pp. 192, 206, pl. xv. fig. 3 only (1858); *Scl. P. Z. S.* 1864, p. 9; *Sharpe, Monogr. Alced.* p. 249, pl. 95 (1870).
Halcyon sacra, *Gray, Cat. B. Trop. Isl. Pacific Ocean*, p. 6 (1859); *id. Hand-l. B.* i. p. 93, no. 1131 (1869).
? Coporhamphus sacer (*nec Gm.*), *Cab. & Heine, Mus. Hein.* Th. ii. p. 160 (1860).
Dacelo sacra (*nec Gm.*), *Schl. Mus. Pays-Bas*, Alced. p. 38 (1863).

Adult. General colour above green, the back and upper tail-coverts rather brighter blue than the scapulars and mantle; upper tail-coverts tipped with white; wings also brighter blue than the mantle, the quills blackish at the ends and on the inner webs; tail-feathers greenish blue, with black shafts, the inner webs dusky blackish, and the ends fringed with white; crown of head green, the forehead and a broad eyebrow white, connected round the occiput and followed by a blackish band on the hind neck, which is connected with the dark green ear-coverts; lores black; a broad collar round the hind neck, cheeks, and entire under surface of the body white; under wing-coverts and axillaries also white; quills dusky below, ashy along the inner web. Total length 8·5 inches, culmen 1·5, wing 4, tail 2·9, tarsus 0·55.

Young. Differs from the adult in being of a duller green colour, the wing-coverts conspicuously edged with buffy white; the forehead green like the head, but streaked with buffy white; eyebrow narrow and buffy white, extending above the ear-coverts but not round the nape; sides of neck black, slightly mottled with fulvous; the hind neck white, but the collar not complete as in the adult; under surface of body white, with dusky margins to a few of the feathers of the breast.

Hab. Society Islands.

a, *b*. Ad. et juv. sk.	Huaheine, Society Islands (*A. Garrett*).	Tweeddale Coll.
c. Ad. sk.	Huaheine.	Gould Coll.
d, *e*, *f*. ♂ ad. et juv. sk.	Huaheine.	Purchased.
g. Ad. sk.	Huaheine.	J. H. Gurney, Esq. [P.].

18. CITTURA.

	Type.
Cittura, *Kaup, Fam. Eisv.* p. 8 (1848).....	C. cyanotis.

Range. Celebes and the Sanghir Islands.

Key to the Species *.

a. Smaller: olivaceous brown above; no black frontal band; male with blue wing-coverts and a blue eyebrow, the female with black wing-coverts and a dark blue eyebrow, the feathers tipped with white ..... *cyanotis*, p. 292.

b. Larger: ochreous brown above; a black frontal band; sexes alike in having a white-tipped eyebrow, but the male having blue wing-coverts and the female black ones ..... *sanghirensis*, p. 293.

1. Cittura cyanotis.

Dacelo cyanotis, *Temm. Pl. Col.* iv. pl. 262 (1824); *Gray, Gen. B.* i. p. 78 (1846); *id. List Fissir. Brit. Mus.* p. 52 (1848); *Bp. Consp.* i. p. 154 (1850); *Schl. Mus. Pays-Bas*, Alced. p. 22 (1863); *id. Vog. Nederl. Ind.*, Alced. pp. 18, 51, pl. vi. figs. 1, 2 (1864); *Gray, Hand-l. B.* i. p. 89, no. 1065 (1869); *Schl. Mus. Pays-Bas*, Alced. *Revue*, p. 14 (1874).

Cittura cyanotis, *Reichenb. Handb., Alced.* p. 38, Taf. 429. fig. 3170 (1851); *Sharpe, Monogr. Alced.* p. 301, pl. 119 (1868); *Walden, Tr. Z. S.* viii. p. 44 (1872); *Salvad. Ann. Mus. Civic. Genov.* vii. p. 653 (1877); *Rowley, Orn. Misc.* iii. pl. 99 (1878); *Meyer, op. cit.* pp. 131–143 (1878); *id. Ibis*, 1879, p. 63; *Guillem. P. Z. S.* 1885, p. 548; *Blasius, Zeitschr. ges. Orn.* iii. p. 90 (1886).

Adult male. General colour above olive-brown, including the mantle, back, and scapulars, the outer webs of the latter creamy buff, forming a pale band down the wing; upper tail-coverts chestnut, as also the tail-feathers; wing-coverts deep ultramarine, the greater series, bastard-wing, primary-coverts, and quills blackish, washed with blue externally, the inner secondaries with ochreous buff near the ends; crown of head more reddish ochre than the back; a narrow streak running from the base of the nostrils above the eye, and widening into a broad band of dark ultramarine above the ear-coverts; above this blue band a superciliary band of ochreous-tipped feathers with a slight lilac tinge; a small black spot at the base of the cheeks; the sides of face, ear-coverts, and cheeks ochreous with a lilac gloss; chin white; lower throat, fore neck, and breast ochreous, glossed with lilac; abdomen isabelline, more fulvescent on the sides of the body; under tail-coverts yellowish buff; under wing-coverts and axillaries pale ochreous, with a black patch on the greater under wing-coverts; lower primary-coverts ashy brown; quills dusky below, pale ochreous along the inner web: "bill and feet dark red; claws brownish black; iris rosy red" (*A. B. Meyer*). Total length 9 inches, culmen 1·4, wing 3·8, tail 3·7, tarsus 0·5.

Adult female. Similar to the male, but differing in the band along the sides of the hinder crown, and the wing-coverts, which are black instead of blue; the superciliary streak is black, tipped

* *Cf.* Meyer, in Rowley's Orn. Misc. iii. pp. 131–143 (1878).

with white, instead of the lilac band of the male. Total length 9·5 inches, culmen 1·5, wing 4, tail 3·7, tarsus 0·55.

Hab. Celebes.

a, b. ♂ ♀ ad. sk.	Celebes (*Sharpe Coll.*).	Tweeddale Coll.
c. [♀] ad. sk.	Celebes (*Sharpe Coll.*).	Tweeddale Coll.
d, e. ♂ ♀ ad. sk.	Menado, Dec., Feb. (*A. B. Meyer*).	Gould Coll.
f, g. ♂ ♀ ad. sk.	Menado.	Gould Coll.
h, i. ♂ ♀ ad. sk.	Menado.	Wallace Coll.
k. Juv. sk.	Menado.	Hume Coll.
l. ♂ ad. sk.	Menado (*Duivenbode*).	Tweeddale Coll.

2. Cittura sanghirensis.

Cittura sanghirensis, *Sharpe, P. Z. S.* 1868, p. 270, pl. 27; *id. Monogr. Alced.* p. 209, pl. 118 (1868); *Salvad. Ann. Mus. Civic. Genov.* ix. p. 53 (1876); *Meyer in Rowley's Orn. Misc.* iii. p. 152 (1878); *Rowley, t. c.* pl. 100; *Meyer, Abbild. Vogelsk.* Taf. 26 (1882); *id. Abhandl. Ges. 'Isis,'* Abth. i. p. 19 (1884); *W. Blasius, Zeitschr. ges. Orn.* iii. p. 91 (1886); *id. Ornis*, iv. p. 576 (1888).

Dacelo sanghirensis, *Gray, Hand-l. B.* i. p. 89, no. 1066 (1869); *Schl. Mus. Pays-Bas*, Alced. *Revue*, p. 14 (1874).

Cittura cyanotis, pt., *Lenz, J. f. O.* 1877, p. 368.

Adult male. Similar to *C. cyanotis*, but rather larger, of a warmer and brighter ochreous colour above; forehead black, as well as a line from the base of the bill, running above the eye and the ear-coverts, and surmounted by another line of white-tipped feathers; base of cheeks black; sides of face, cheeks, ear-coverts, and lower throat beautiful lilac; wing-coverts deep ultramarine; the light band along the scapulars rich ochre. Total length 10 inches, culmen 1·8, wing 4·6, tail 3·8, tarsus 0·65.

Adult female. Similar to the male, having the same white-tipped superciliary streak, but having the wing-coverts black instead of blue. Total length 9·5 inches, culmen 1·7, wing 4·3, tail 3·7, tarsus 0·65.

Hab. Sanghir Islands.

a. Ad. sk.	Sanghir Islands (*Sharpe Coll.*).	Tweeddale Coll. (Type of species.)
b, c. ♂ ♀ ad. sk.	Sanghir Islands.	Purchased.
d, e. Ad. sk.	Sanghir Islands (*Dr. A. B. Meyer*).	Tweeddale Coll.

19. MONACHALCYON.

Monachalcyon, *Reichenb. Handb., Alced.* p. 37 (1851).	Type. M. monachus.
Caridonax, *Cab. & Heine, Mus. Hein.* Th. ii. p. 162 (1860)	M. fulgidus.

Range. Celebes, Lombock, and Flores.

Key to the Species.

a. With no white on the lower back. [Monachalcyon.]
  a'. Under surface of body rufous, with no bars across the breast or ochreous bars on the back; head blue, lighter on the nape.
    a''. Entire sides of face blue ..... *monachus* ♂, p. 294.
    b''. Lores, eyebrow, and cheeks deep rufous like the sides of the neck ..... *monachus* ♀, p. 294.
  b'. Under surface of body and collar round the hind neck ochreous or yellowish white, with numerous cross bars of dusky blackish; head uniform deep blue ..... *cyanocephalus*, p. 295.
b. Lower back and rump silvery white; under surface of body pure white; rest of plumage blue-black. [Caridonax.] ..... *fulgidus*, p. 296.

1. Monachalcyon monachus.

Dacelo princeps, *Forsten, MSS.*; *Gray, Hand-l. B.* i. p. 89, no. 1068 (1369).
Halcyon monachus, *Gray, Gen. B.* i. p. 79 (1846); *Cass. Cat. Halc. Philad. Mus.* p. 8 (1852); *Bp. Consp.* i. p. 154 (1850); *Wall. Ibis*, 1862, p. 142.
Dacelo monachus, *Gray, List Fissir. Brit. Mus.* p. 53 (1848); *Blyth, Cat. B. Mus. As. Soc.* p. 46 (1849).
Monachalcyon princeps, *Wald. Tr. Z. S.* viii. p. 43 (1872); *Salvad. Ann. Mus. Genov.* vii. p. 653 (1877); *Meyer, Ibis*, 1879, p. 60.
Halcyon princeps, *Cass. Cat. Halc. Philad. Mus.* p. 8 (1882).
Paralcyon princeps, *Bp. Consp. Volucr. Anis.* p. 9 (1854).
Dacelo princeps, *Schl. Mus. Pays-Bas*, Alced. p. 24 (1863); *id. Voy. Nederl. Ind.* pp. 20, 53, pl. vii. figs. 1, 2 (1864); *id. Mus. Pays-Bas*, Alced. *Revue*, p. 16 (1874).
Monachalcyon monachus, *Sharpe, Monogr. Alced.* p. 255, pl. 98. figs. 1, 2 (1870); *Guillem. P. Z. S.* 1885, p. 547 (Kema).

Adult male. General colour above olive-green, the wing-coverts like the back; the rump, upper tail-coverts, and tail dull bluish green, the tail with a decided blue shade; quills dusky brown, externally olive-green, with a little more blue on the primaries and primary-coverts; head and nape blue, the forehead and lores dusky, with a little reddish on the latter; cheeks and ear-coverts blue like the crown; throat buffy white; sides of neck deep ferruginous, not forming a collar on the hind neck; under surface of body also ferruginous, paler in the centre of the abdomen; under wing-coverts and axillaries like the breast; quills dusky brown below, fulvescent about the base of the inner web. Total length 13 inches, culmen 1·75, wing 5·5, tail 4·5, tarsus 0·8.

Adult female. Differs from the male in the markings on the head and neck, as follows:—the base of the forehead is washed with ferruginous; the lores, eyebrows, and ear-coverts are ferruginous, as also the sides of the neck, forming moreover a complete collar round the hind neck; the blue crown inclines slightly to lighter

blue on the nape; the cheeks are blue, forming a broad moustachial band. Total length 12·5 inches, culmen 2·2, wing 5·7, tail 4·4, tarsus 0·75.

Hab. Celebes.

a. Ad. st.	Celebes.	Purchased.
b. ♂ ad. sk.	Celebes.	Tweeddale Coll.
c–e. Ad. sk.	Menado, N. Celebes.	Gould Coll.
f. ♂ ad.; *g, h.* ♀ ad. sk.	Menado.	Wallace Coll.
i. Ad. sk.	Menado.	Hume Coll.
k, l. ♂ ad. sk.	Menado (*R. van Duivenbode*: *Sharpe Coll.*).	Tweeddale Coll.

2. Monachalcyon cyanocephalus.

Monachalcyon princeps (*nec Forsten*), *Reichenb. Handb., Alced.* p. 38, Taf. 425. fig. 3157 (1851).

Dacelo cyanocephalus, *Forsten, MSS.*

Dacelo princeps, pt., *Schl. Mus. Pays-Bas*, Alced. p. 24 (1863); *id. Vog. Nederl. Ind.* Alced. pp. 20, 53, pl. vii. fig. 3 (1864); *id. Mus. Pays-Bas*, Alced. *Revue*, p. 16 (1874).

Monachalcyon monachus, pt., *Sharpe, Monogr. Alced.* pl. 98. fig. 3 (1870).

Halcyon cyanocephalus, *Brüggem. Abhandl. nat. Ver. Bremen*, v. p. 51 (1876).

Monachalcyon cyanocephalus, *Meyer, Ibis*, 1879, p. 61.

Adult. General colour above brown, the feathers of the lower back, rump, and upper tail-coverts tipped with an edging of rufescent ochre; wing-coverts brown, also edged with rufescent ochre, before which is a blackish subterminal bar; quills brown, externally edged with rufous, the inner secondaries tipped like the wing-coverts; tail-feathers brown with rufescent margins; crown of head dull blue, with a black band round the occiput, separating the crown from the hind neck, which has a broad collar of deep ochraceous buff, mottled with subterminal lines and bars of black; a broad eyebrow of deep ochraceous running from the base of the bill to above the ear-coverts; sides of face and ear-coverts deep blue, the hinder part of the ear-coverts black; across the ear-coverts a broad streak of ochreous buff; under surface of body pale ochreous white, the throat unspotted; lower throat, breast, and sides of body deep ochreous, crossed with irregular wavy bars of blackish brown, less frequent on the abdomen, which is paler; under tail-coverts ochreous buff, uniform; under wing-coverts like the breast, and barred in the same manner; quills brown below, ochreous along the inner web. Total length 11 inches, culmen 1·65, wing 4·5, tail 3·65, tarsus 0·7.

Hab. Celebes.

a. Ad. sk.	Celebes.	Purchased.
b. Ad. sk.	Menado, N. Celebes.	Tweeddale Coll.

3. Monachalcyon fulgidus.

Halcyon fulgidus, *Gould, P. Z. S.* 1857, p. 65; *id. B. Asia*, i. pl. 46 (1860); *Wall. P. Z. S.* 1863, p. 484; *Gray, Hand-l. B.* i. p. 94, no. 1139 (1869).

Caridonax fulgidus, *Cab. & Heine, Mus. Hein.* Th. ii. p. 162 (1860); *Sharpe, Monogr. Alced.* p. 257, pl. 99 (1868).

Dacelo fulgidus, *Schl. Mus. Pays-Bas.* Alced. p. 24 (1863); *id. Vog. Nederl. Ind.* Alced. pp. 21, 54, pl. ix. fig. 1 (1884); *id. Mus. Pays-Bas*, Alced. *Revue*, p. 16 (1874).

Adult female (type of species). General colour above deep ultramarine or purplish blue, including the wing-coverts and outer aspect of quills, the latter being black on the inner web and at the ends; centre of lower back, rump, and upper tail-coverts silvery white, inclining to blue on the sides; the sides of the lower back and rump entirely black; lateral upper tail-coverts and tail-feathers deep ultramarine like the back; crown of head, sides of face, cheeks, ear-coverts, and sides of neck black, slightly washed with blue on the nape; entire under surface of body pure white; sides of upper breast black; sides of body mottled with black bases to the feathers; thighs black; long upper tail-coverts white; the vent-feathers black at the base and washed with blue; under wing-coverts black, the greater series white, black towards the ends. Total length 12 inches, culmen 2·1, wing 5·25, tail 4·1, tarsus 0·75.

Young. Duller and blacker than the adult, without the purplish-blue lustre of the old birds; the abdomen, under tail- and wing-coverts inclining to fulvous.

Hab. Islands of Lombock and Flores.

a, *b*. Ad. st.	Lombock.	Wallace Coll.
c. Ad. sk.	Lombock (*A. R. Wallace*).	Gould Coll. (Type of species.)
d. Ad. sk.	Lombock.	Wallace Coll.
e. Juv. sk.	Flores.	Wallace Coll.

20. TANYSIPTERA.

	Type.
Tanysiptera, *Vigors, Trans. Linn. Soc.* xiv. p. 433 (1825).	T. dea.
Uralcyon, *Heine, J. f. O.* 1859, p. 406	T. sylvia.

Range. Moluccas, Papuan Islands, and the Cape York Peninsula of Australia.

Key to the Species.

a. Under surface vermilion; outer tail-feathers merely tipped with white; no white dorsal patch.	
a'. Head blue; sides of face and mantle black..	*nympha*, p. 298.
b'. Head brown; sides of face and mantle reddish brown	*danae*, p. 298.

b. Under surface of body cinnamon or ochreous buff; no white on inner web of lateral tail-feathers; a white dorsal patch.
  c'. Head black like the mantle and scapulars .. *nigriceps*, p. 299.
  d'. Head blue; mantle black.
    a''. Head purplish blue; wing-coverts ultramarine, below deep cinnamon ..... *sylvia*, p. 300.
    b''. Head light blue; wing-coverts greenish blue, below pale cinnamon; the under tail-coverts buff ..... *salvadoriana*, p. 301.
c. Under surface of body white; a white dorsal patch.
  e'. Upper tail-coverts and tail-feathers edged with blue.
    c''. Upper tail-coverts and tail-feathers broadly edged with blue..... *doris*, p. 301.
    d''. Upper tail-coverts white; tail-feathers very narrowly edged with blue ..... *emiliæ*, p. 302.
  f'. Upper tail-coverts white; tail-feathers almost entirely white without a blue border .... *sabrina*, p. 303.
d. Under surface of body white; no white dorsal patch.
  g'. Upper back and mantle uniform with scapulars, and contrasting strongly with the blue of the head, which forms a cap.
    e''. Ear-coverts black.
      a'''. Back black, washed with blue; outer tail-feathers without any white..... *hydrocharis*, p. 304.
      b'''. Back entirely black; outer tail-feathers with the inner web white ..... *acis*, p. 305.
    f''. Ear-coverts blue or purple like the hind neck.
      c'''. Tail-feathers not spatulate at the ends. *ellioti*, p. 305.
      d'''. Tail-feathers with a distinct white racket at the ends.
        a^4. Outer upper tail-coverts blue; crown of head ultramarine, with a broad superciliary band of silvery cobalt encircling the nape ..... *margaritæ*, p. 306.
        b^4. Outer upper tail-coverts black, or bordered with blue; crown of head uniform blue, the eyebrow not differing perceptibly from the crown in colour ..... *obiensis*, p. 307.
        c^4. Outer tail-coverts white or narrowly bordered with blue; head practically uniform, the eyebrow and crown scarcely differing in tint.
          a^5. Centre tail-feathers almost entirely blue.
            a^6. Larger..... *galatea*, p. 307.
            b^6. Smaller ..... *microrhyncha*, p. 308.
          b^5. Centre tail-feathers white, with the narrow extended portion blue.
            c^6. Head deep blue, as also the shoulder-patch; outer tail-feathers entirely white ..... *rosseliana*, p. 309.

d^6. Head and shoulder-patch brilliant silvery cobalt; a narrow blue margin to the tail-feathers .... *meyeri*, p. 309.

h'. Upper back and mantle mottled with blue of the same colour as the head.

g''. Head ultramarine, as well as the sides of the face and ear-coverts; wing-coverts also shaded with purplish blue ..... *dea*, p. 310.

h''. Head and sides of face, as well as sides of neck, mantle, and all the wing-coverts bright silvery-greenish cobalt.... ..... *riedeli*, p. 311.

d. Under surface of body entirely deep blue; tail white, excepting the narrow shaft of the centre feathers, which is blue ..... *carolinæ*, p. 312.

1. Tanysiptera nympha.

Tanysiptera nympha, *Gray, Ann. & Mag. Nat. Hist.* vi. p. 237 (1841); *id. Gen. B.* i. p. 78 (1846); *id. List Fissir. Brit. Mus.* p. 59 (1848); *Bp. Consp.* i. p. 157 (1850); *Gray, P. Z. S.* 1860, p. 347; *Wall. P. Z. S.* 1862, p. 165, 1863, p. 24; *Schl. Nederl. Tijdschr. Dierk.* iii. pp. 250, 269 (1866); *Sharpe, Monogr. Alced.* p. 269, pl. 104 (1869); *id. P. Z. S.* 1869, p. 631; *Gray, Hand-l. B.* i. p. 90, no. 1072 (1869); *Scl. P. Z. S.* 1873, p. 697; *Schl. Mus. P.-B.* Alced. *Revue*, p. 41 (1874); *Beccari, Ann. Mus. Civic. Genov.* vii. p. 708 (1875); *Salvad. op. cit.* x. pp. 127, 303 (1877); *Gould, B. New Guinea*, iv. pl. 48 (1878); *Salvad. Orn. Papuasia*, i. p. 452 (1880); *Meyer, Zeitschr. ges. Orn.* iii. p. 33 (1886); *Salvad. Agg. Orn. Papuasia*, i. p. 55 (1889).

Alcedo (Tanysiptera) nympha, *Martens, J. f. O.* 1866, p. 18.

Adult. Head rich ultramarine, inclining to cobalt on the nape; ear-coverts and upper part of the back and scapulars jet-black; lower part of the back, rump, and upper tail-coverts rich vermilion; wing-coverts black, edged with ultramarine, the innermost ones rich cobalt; quills black, the inner web light rufous from the base, the exterior very narrowly washed with blue; tail-feathers deep blue, the interior ones tipped with white, the two middle tail-feathers rich blue, the spatula long and white, with a faint blush of rose; entire under surface rich vermilion, a little paler on the throat and abdomen: bill and feet sealing-wax red; eyes black. Total length 11 inches, of bill from front 1·2, from gape 1·7, wing 3·6, tail 2·8, middle rectrices 0·6, tarsus 0·3.

Hab. N.W. New Guinea.

a. Ad. [imperfect] sk.	New Guinea.	Old Coll. (Type of species.)
b. Ad. sk.	New Guinea.	Tweeddale Coll.
c. ♂ ad. sk.	New Guinea.	Wallace Coll.

2. Tanysiptera danae.

Tanysiptera nympha (*nec Gray*), *Ramsay, Proc. Linn. Soc. N. S. Wales*, iv. p. 467 (1879; Goldie River).

Tanysiptera danae, *Sharpe, Ann. & Mag. Nat. Hist.* (5) vi. p. 231

(1880); *id. in Gould's B. New Guinea*, iv. pl. 49 (1882); *id. Journ. Linn. Soc.* xvi. p. 429 (1882: Taburi district; Milne Bay; China Straits); *Salvad. Ann. Mus. Genov.* xviii. p. 420 (1882); *id. Orn. Papuasia*, iii. p. 523 (1882); *Finsch, & Meyer, Zeitschr. ges. Orn.* iii. p. 14 (1886; Milne Bay); *Salvad. Agg. Orn. Papuasia*, i. p. 55 (1889).

Adult (type of species). General colour above warm ochreous brown; the lower back, rump, and upper tail-coverts bright vermilion, some of the long upper tail-coverts blackish; scapulars like the back; wing-coverts dark blue, with a patch of silvery cobalt on the lesser wing-coverts, the inner ones of this series being more brilliant; bastard-wing, primary-coverts, and quills blackish, externally washed with blue; centre tail-feathers blue, with an elongated white tip, not forming a distinct spatula; remainder of tail-feathers purplish blue, blackish on the inner web, with a white spot at the end of the inner web of the central and outermost feathers; head like the back; eyebrow and feathers below the eye light cinnamon; ear-coverts a little warmer brown, like the back; under surface of body bright vermilion, paler on the throat, the sides of body and under wing-coverts light fawn-colour; anterior aspect of thighs blackish. Total length 10·5 inches, culmen 1·25, wing 3·45, tail 3, centre feathers 6·2, tarsus 0·6.

Young. Much duller in colour than the adult; the wing-coverts dusky, tipped with ochreous brown; tail-feathers blue, edged with buffy white near the ends of the centre feathers; under surface ochreous buff, with vermilion only on the breast.

Hab. S.E. New Guinea.

a. ♂ ad.; *b*, *c*. Imm. sk.	Milne Bay.	K. Hunstein [C.]. (Types of species.)
d. Ad. sk.	Astrolabe Mts. (*A. Goldie*).	Sharpe Coll [P.].
e. Ad.; *f*. Juv. sk.	Astrolabe Mts.	Gould Coll.
g, *h*. Ad. sk.	Astrolabe Mts. (*A. Goldie*).	Tweeddale Coll.

3. Tanysiptera nigriceps.

Tanysiptera nigriceps, *Scl. P. Z. S.* 1877, p. 105; *Salvad. Ann. Mus. Genov.* x. p. 303 (1877); *Gould, B. New Guinea*, iv. pl. 50 (1878); *Finsch, P. Z. S.* 1879, p. 10; *E. L. C. Layard, Ibis*, 1880, p. 299 (Duke of York Island); *Salvad. Orn. Papuasia etc.* i. p. 455 (1880); *Finsch, Vög. der Südsee*, p. 9 (1884); *Salvad. Agg. Orn. Papuasia*, i. p. 55 (1889).

Adult female. General colour above black, with a large white patch in the centre of the back; lower back, rump, and upper tail-coverts white, the latter with a good deal of black on the inner web; sides of lower back and rump black; wing-coverts deep ultramarine; quills black externally ultramarine; tail-feathers black, the centre ones white internally and dull ultramarine on the outer web; lores, sides of face, ear-coverts, and sides of neck black; cheeks and under surface of body pale tawny buff; sides of body blackish, as also the inner aspect of the thighs; under tail-

coverts white; under wing-coverts and axillaries like the breast, but paler; quills dusky below, ashy along the inner web: "bill red; feet brown; iris light brown" (*L. C. Layard*). Total length 10·5 inches, culmen 1·5, wing 3·7, tail 3·3, centre tail-feathers 5·6, tarsus 0·65.

Hab. Duke of York Island.

a. Ad. sk.	Duke of York Island, Oct. (*Rev. G. Brown*).	Tweeddale Coll. (Type of species.)
b. ♀ ad. sk.	Duke of York Island, July 17.	L. C. Layard, Esq. [C.].

4. Tanysiptera sylvia.

Tanysiptera sylvia, *Gould, P. Z. S.* 1850, p. 200; *id. B. Austr. Suppl.* pl. 6 (1851); *Reichenb. Handb., Alced.* p. 43, Taf. 307. figs. 3095–96 (1851); *Gray, P. Z. S.* 1858, p. 190, 1860, p. 347, 1861, p. 433; *Wall. P. Z. S.* 1863, p. 24; *Gould, Handb. B. Austr.* i. p. 137 (1865); *Ramsay, Ibis,* 1865, p. 325; *id. P. Z. S.* 1868, p. 383; *Gray, Hand-l. B.* i. p. 90, no. 1076 (1869); *Sharpe, Monogr. Alced.* p. 289, pl. 100 (1869); *Diggles, Orn. Austr.* pl. 27 (1870); *Ramsay, Proc. Linn. Soc. N. S. W.* ii. p. 179 (1878).
Uralcyon sylvia, *Heine, J. f. O.* 1879, p. 406.
Dacelo sylvia, *Schl. Mus. Pays-Bas,* Alced. p. 47 (1863); *id.* Alced. *Revue,* p. 42 (1874).

Adult male. Crown of head deep ultramarine-blue, encircled by a band of brighter blue, which forms an eyebrow and encircles the nape; lores, sides of face, sides of neck, mantle, and upper back black, the latter with a large patch of white; scapulars, wing-coverts, and outer aspect of quills rich ultramarine-blue, the latter blackish on the inner web and towards the end; lower back, rump, and upper tail-coverts pure white, the sides of the rump black: two centre tail-feathers white, the remainder blue, dusky blackish on the inner webs of all but those nearest the two centre feathers, which are edged with white on their web; cheeks and under surface of body rich cinnamon-colour, the throat and under wing-coverts and axillaries slightly paler; quills blackish below, ochreous along the inner webs: "bill and feet sealing-wax red" (*J. Macgillivray*). Total length 13 inches, culmen 1·3, wing 3·8, tail 2·9, centre tail-feathers 9, tarsus 0·5.

Adult female. Similar to the male, but having the spot on the back tinged with buff, and the white centre tail-feathers blue on the outer web. The tail also is not so long as in the male. Total length 9·6 inches, culmen 1·25, wing 3·6, tail 2·2, longest feather 5·2, tarsus 0·55.

Young. Everywhere much paler than the adult, with a dusky bill; the crown black, with dull blue tips to the feathers, surrounded by a band of light blue; mantle and upper back black, the latter with a patch of pale ochreous buff; scapulars, wing-coverts, and quills dusky blackish, tipped with ochreous buff, but showing very little blue; lower back, rump, and upper tail-coverts white, the

former edged with blackish, the latter with blue; tail-feathers blackish with a slight blue gloss, the centre ones a little longer than the rest, and more or less mottled with white on the inner web; cheeks and under surface of body pale tawny buff, with dusky fringes to the feathers.

Hab. N.E. Australia.

a, *b*. Ad. sk.	Cape York.	J. Macgillivray [C.]. (Types of species.)
c. ♀ ad. st.	Cape York.	Capt. Owen Stanley [P.].
d. Juv. sk.	Cape York.	Purchased.
e. ♂ ad.; *f*, *g*. ♀ ad.; *h*. Juv. sk.	Cape York (*Sharpe Coll.*).	Tweeddale Coll.
i, *k*. ♂ ad.; *l*. ♀ ad. sk.	Cape York.	Gould Coll.
m–*p*. ♂ ad.; *q*–*t*. ♀ ad.; *u*–*w*. imm. sk.	Cape York (*J. T. Cockerell*).	Salvin-Godman Coll.
x. Ad. sk.	Port Albany (*Coxen*).	Tweeddale Coll.

5. Tanysiptera salvadoriana.

Tanysiptera sylvia (*nec Gould*), *Salvad. & D'Albert. Ann. Mus. Genov.* vii. p. 815 (1875); *Salvad. op. cit.* x. p. 303 (1877, pt.); *Sharpe, Journ. Linn. Soc.* xiii. p. 493 (1878), xiv. p. 629 (1879); *Finsch, Vög. der Südsee*, p. 31 (1884).

Tanysiptera salvadoriana, *Ramsay, Proc. Linn. Soc. N. S. W.* iii. p. 259 (1878), iv. p. 97 (1879); *Salvad. Ibis*, 1879, p. 322; *Sharpe, Journ. Linn. Soc.* xvi. p. 429 (1882; Maroco); *Salvad. Orn. Papuasia etc.* i. p. 453 (1880); *id. op. cit.* iii. p. 523 (1882); *id. Agg. Orn. Papuasia*, i. p. 55 (1889).

Adult. Similar to *T. sylvia*, but altogether a paler bird, the head lighter and more cobalt-blue; forehead black; the scapulars and wings of a greenish blue, and the cheeks and under surface of body pale cinnamon: "bill and feet orange-red; iris blackish" (*D'Albertis*). Total length 11·5 inches, culmen 1·25, wing 3·7, tail 2·9, centre tail-feathers 8·3, tarsus 0·6.

Hab. S.E. New Guinea.

a, *b*. Ad. et juv. sk.	Port Moresby.	Gould Coll.
c, *d*. Ad. sk.	Port Moresby.	Messrs. Goldie & Broadbent [C.].
e. Ad. sk.	Port Moresby (*A. Goldie*).	Tweeddale Coll.

6. Tanysiptera doris.

Tanysiptera doris, *Wall. Ibis*, 1862, p. 350; *id. P. Z. S.* 1863, p. 24; *Schl. Nederl. Tijdschr. Dierk.* iii. p. 274 (1866, pt.); *Gray, Hand-l. B.* i. p. 90, no. 1077 (1869); *Sharpe, P. Z. S.* 1869, p. 631; *id. Monogr. Alced.* p. 263, pl. 101 (1870); *Salvad. Ann. Mus. Genov.* x. p. 302 (1877); *id. Orn. Papuasia etc.* i. p. 429 (1880).

Dacelo sabrina, pt., *Schl. Mus. Pays-Bas*, Alced. p. 46 (1863); *id.*

Vog. Nederl. Ind. Alced. pp. 37, 65, pl. 14. figs. 1–3, pl. 15. fig. 3 (1364); *Finsch, Neu-Guinea*, p. 161 (1865).
Tanysiptera dea, pt., *Schl. Mus. Pays-Bas*, Alced. *Revue*, p. 34 (1874).

Adult. Head brilliant cobalt; cheeks, ear-coverts, and back of the neck deep blue, more brilliant on the two former; upper part of the back and scapulars deep blue-black; a large patch of feathers in the centre of the back pure white; wing-coverts deep black, broadly edged with bright blue, the innermost ones glittering cobalt; quills black, the inner web white at the base, the outer webs washed with dark blue; lower portion of the back and upper tail-coverts white, the latter edged with dark blue; tail-feathers white, the exterior web, as well as the tip of the interior, broadly margined with dark blue; the two middle feathers blue for the whole length, as far as the spatula, the basal half of the inner web varied with white; entire under surface white: bill sealing-wax red; feet olive-brown. Total length 14 inches, of bill from front 1·3, from gape 1·7, wing 4, tail 4·1, middle rectrices 8, tarsus 0·5.

Young. Head blue-black, with a cincture of brilliant cobalt; cheeks, ear-coverts, sides and back of the neck deep blue-black; upper surface of the body brown, with a patch of fulvous spots on the upper part of the back, corresponding to the white patch in the adult; wing-coverts brown, narrowly edged with fulvous; quills brown; upper tail-coverts brown, slightly streaked with fulvous; tail blackish brown, glossed with blue, especially on the centre feathers, which have also the inner web white; lores and under surface of the body deep fulvous, with irregular markings of black caused by the black margins to the feathers: bill red, mixed with black towards the tip; feet olive-brown.

Hab. Morty Island or Morotai, in the Moluccas.

a, *b*. Ad. sk.	Morty Island.	Wallace Coll. (Types of species.)
c–f. Ad.; *g*, *h*. Juv. sk.	Morty Island.	Wallace Coll.
i, *k*, *l*. Ad.; *m*. Juv. sk.	Morty Island (*A. R. Wallace*: *Sharpe Coll.*).	Tweeddale Coll.
n, *o*. Ad. sk.	Morty Island (*A. R. Wallace*).	Gould Coll.

7. Tanysiptera emiliæ.

Dacelo sabrina, pt., *Schl. Mus. Pays-Bas*, Alced. p. 46 (1863); *id. Vog. Nederl. Ind.* Alced. pp. 37, 65, pl. 14. figs. 4, 5 (1864): *Finsch, Neu-Guinea*, p. 161 (1865).
Tanysiptera doris, pt., *Schl. Nederl. Tijdschr. Dierk.* iii. p. 274 (1866).
Tanysiptera emiliæ, *Sharpe, Monogr. Alced.* p. 265, pl. 102 (1871); *Salvad. Ann. Mus. Civic. Genov.* x. p. 302 (1877); *id. Orn. Papuasia etc.* i. p. 428 (1880).
Tanysiptera dea, pt., *Schl. Mus. Pays-Bas*, Alced. p. 34 (1874).

Male. Entire head, which is much crested, and nape beautiful silvery cobalt; cheeks, ear-coverts, back and sides of neck, and the upper part of the back black, washed distinctly with cobalt; in the middle of the back a large patch of white feathers; scapulars very deep ultramarine; least wing-coverts very brilliant silvery cobalt, the greater ones black, washed with dark ultramarine; quills blackish brown, the inner web grey at the base, the secondaries externally glossed with deep blue; lower part of the back, rump, and upper tail-coverts pure white, the latter indistinctly edged with greyish black, here and there tinged with blue; tail-feathers pure white, margined with blue, which is the colour of the narrow shaft to the spatula, which is again pure white; entire under surface pure white, mixed with blue on the under wing-coverts: bill red; feet olive-brown; nails fleshy brown. Total length 14 inches, of bill from front 1·4, from gape 1·9, wing 4·3, tail 4·4, middle rectrices 8·2, tarsus 0·6, middle toe 0·7, hind toe 0·4.

Hab. Raou Island, Moluccas.

a. Ad. sk. Raou Island. Leyden Museum [E.].

8. Tanysiptera sabrina.

Tanysiptera sabrina, *Gray, P. Z. S.* 1860, p. 347, pl. 170; *Wall. Ibis*, 1862, p. 350; *id. P. Z. S.* 1863, p. 24; *Schl. Nederl. Tijdschr. Dierk.* iii. p. 272 (1866); *Gray, Hand-l. B.* i. p. 90, no. 1073 (1869); *Sharpe, P. Z. S.* 1869, p. 631; *id. Monogr. Alced.* p. 267, pl. 103 (1871); *Salvad. Ann. Mus. Genov.* x. p. 301 (1877); *id. Orn. Papuasia etc.* i. p. 434 (1880).

Dacelo sabrina, pt., *Schl. Mus. Pays-Bas*, Alced. p. 46 (1863); *id. Voy. Nederl. Ind.* Alced. pp. 37, 65 (1864); *Finsch, Neu-Guinea*, p. 161 (1865).

Tanysiptera dea, pt., *Schl. Mus. Pays-Bas*, Alced. *Revue*, p. 34 (1874).

Adult. Head, nape, and wing-coverts bright ultramarine; cheeks, ear-coverts, and hinder part of the neck, upper part of the back, and scapulars black, plainly washed with dark blue; in the centre of the back a small patch of white feathers; wing-feathers black, the extreme basal portion of the inner web white, the exterior web broadly margined with dark blue; lower part of the back, rump, and upper tail-coverts pure white; tail-feathers pure white; the two middle feathers white at the base, with here and there a narrow blue edging, the narrow portion of the shaft blue, the spatula white: bill sealing-wax red; feet olive-brown. Total length 13·5 inches, of bill from front 1·4, from gape 1·8, wing 4·3, tail 4·3, middle rectrices 7·5, tarsus 0·5, middle toe 0·7, hind toe 0·3.

Hab. Kaioa Island, Moluccas.

a. Ad. sk. Kaioa Island. Wallace Coll.

b. Ad. sk. Kaioa Island. (Type of species.) Wallace Coll.

9. Tanysiptera hydrocharis.

Tanysiptera sp., *Wall. Ann. & Mag. Nat. Hist.* (2) xx. p. 477 (1857).
Tanysiptera hydrocharis, *Gray, P. Z. S.* 1858, pp. 172, 190; *id. Cat. Mamm. & B. New Guinea*, pp. 20, 55 (1859); *id. P. Z. S.* 1860, p. 347; *Cab. & Heine, Mus. Hein.* Th. ii. p. 162 (1860); *Gray, P. Z. S.* 1861, p. 433; *Wall. P. Z. S.* 1863, p. 24; *Rosenb. Nat. Tijdschr. Nederl. Ind.* xxv. p. 231 (1863); *id. J. f. O.* 1864, p. 118; *Schl. Nederl. Tijdschr. Dierk.* iii. pp. 269, 340 (1866); *Rosenb. Reis naar Zuidoostereil.* p. 38 (1867); *Gray, Hand-l. B.* i. p. 90, no. 1075 (1869); *Sharpe, P. Z. S.* 1869, p. 631; *id. Monogr. Alced.* p. 273, pl. 106 (1870); *Pelz. Verh. z.-b. Ges. Wien*, xxii. p. 427 (1872); *Schleg. Mus. Pays-Bas*, Alced. *Revue*, p. 41 (1874); *Salvad. Ann. Mus. Genov.* x. p. 303 (1877); *D'Albert. & Salvad. op. cit.* xiv. p. 50 (1879); *Salvad. Orn. Papuasia etc.* i. p. 450 (1880); *Meyer, Zeitschr. ges. Orn.* i. p. 276 (1884); *Salvad. Agg. Orn. Papuasia*, i. p. 55 (1889).
Dacelo hydrocharis, *Schleg. Mus. Pays-Bas*, Alced. p. 46 (1863); *id. Vog. Nederl. Ind.* pp. 36, 65, pl. xv. fig. 4 (1864); *Finsch, Neu-Guinea*, p. 161 (1865).

Adult. Crown of the head light cobalt, blackish on the forehead, and brighter along the sides of the head; cheeks, ear-coverts, and nape black; scapulars, middle of the back, and wing-coverts black, washed with ultramarine, brighter on the latter; wing-feathers black, white at the base, washed with ultramarine on the outer web; rump pure white; tail black, broadly washed with dark blue; middle feathers blue, edged with white near the base and terminating in an elongated white spatula; entire under surface white: bill coral-red; feet dusky reddish olive; eyes dark brown. Total length 13·3 inches, of bill from front 1, from gape 1·4, wing 3·5, tail 3·3, middle tail-feathers 9, tarsus 3·6, middle toe 0·6, hind toe 0·25.

Young. Head blackish brown; a line of feathers, extending from the base of the bill backwards over the eye, pale fulvous brown; back, scapulars, and wing-coverts dark brown, strongly tinged with dark ochre, especially on the rump and wing-coverts, the latter being conspicuously edged with ochre; quills blackish brown, fulvous at the base, the primaries externally edged with whitish brown, the secondaries with dark ochre, this colour being spread over the whole of the innermost secondary quills; tail ochreous brown, the middle feathers tinged with dull blue; ear-coverts dark brown; cheeks mixed dark brown and ochre; sides of the neck and entire breast ochre, margined with blackish brown, the lower part of the abdomen white; throat pure white, with a line of brown feathers running down each side of it: bill dark horn-brown, paler on the lower mandible; feet olive-brown. Total length 5·3 inches, of bill from front 0·8, wing 3, tarsus 0·55.

Hab. Aru Islands.

a, b, c. Ad.; *d.* Imm. sk.	Aru Islands.	Wallace Coll. (Types of species.)
e, f. Ad. et juv. sk.	Aru Islands (*A. R. Wallace*).	Gould Coll.

g. Juv. sk.	Aru Islands.	Purchased.
h. Ad. sk.	Aru Islands.	Wallace Coll.
i. Imm. st.	Aru Islands.	Wallace Coll.

10. Tanysiptera acis.

Tanysiptera acis, *Wall. P. Z. S.* 1863, pp. 23, 24; *Schl. Ned. Tijdschr.* iii. p. 273 (1866); *Sharpe, P. Z. S.* 1869, p. 631; *Gray, Hand-l. B.* i. p. 90 (1869); *Sharpe, Monogr. Alced.* p. 275 (1870); *Salvad. Ann. Mus. Genov.* x. p. 303 (1877), xii. p. 319 (1878).
Dacelo dea, pt., *Schl. Mus. Pays-Bas*, Alced. p. 43 (1863); *id. Vog. Ned. Ind.* pp. 33, 62 (1864).
Tanysiptera dea, pt., *Salvad. Ann. Mus. Genov.* i. p. 436 (1880).

Immature (type of species). Head dark blue, inclining to cobalt on the nape; cheeks, ear-coverts, hinder portion of the neck, upper part of the back, and scapulars deep black, with a faint tinge of blue here and there; lower portion of the back, rump, and upper tail-coverts dingy white, each feather broadly margined with black; wing-coverts deep blue, the innermost ones bright cobalt; quills black, the inner web yellowish at the base, the exterior webs slightly tinged with dark blue; tail-feathers white, broadly edged with blue, the middle feathers, with the exception of a few white patches at the base, blue for the whole length as far as the spatula, which is also edged with blue; entire under surface pale fulvous, each feather narrowly edged with black: bill red; feet olive; iris dark brown. Total length 14 inches, of bill from front 1·2, from gape 1·7, wing 4, tail 3·7, centre tail-feathers 8, tarsus 0·45, middle toe 0·8, hind toe 0·3.

Hab. Island of Bourou, in the Moluccas.

a. Imm. sk.	Bourou.	Wallace Coll.	(Type of species.)

11. Tanysiptera ellioti.

Tanysiptera ellioti, *Sharpe, P. Z. S.* 1869, p. 630; *id. Monogr. Alced.* p. 271, pl. 105 (1871); *Gray, Hand-l. B.* iii. p. 223, no. 1080 *a* (1871); *Beccari, Ann. Mus. Genov.* vii. p. 707 (1875); *Salvad. op. cit.* x. p. 302 (1877); *id. Orn. Papuasia etc.* i. p. 447 (1880).
Tanysiptera waldeni (err.), *Schl. Nederl. Tijdschr. Dierk.* iv. p. 12, note (1871).
Tanysiptera dea, pt., *Schl. Mus. Pays-Bas*, Alced. p. 34 (1874).
Dacelo ellioti, *Giebel, Thes. Orn.* ii. p. 5 (1875).

Adult. Head uniform brilliant cobalt; cheeks, ear-coverts, and the whole of the back rich ultramarine; lesser and least coverts brilliant cobalt, the second series bright ultramarine, the cubital and primary-coverts ultramarine, uniform with back; quills entirely black, the outer web broadly washed with deep ultramarine; lower part of the back, rump, and upper tail-coverts pure white; tail-feathers all pure white, the middle ones not attenuated and with no perceptible spatula, these feathers when observed from a distance and placed on a level with the eye having a faint blue lustre; entire under surface white, thighs ultramarine, and the flanks longitudinally marked with this colour also: bill vermilion; feet olive-brown.

Total length 13·5 inches, of bill from front 1·4, from gape 1·7, wing 4·5, tail 4·5, centre feathers 8, tarsus 0·5, middle toe 0·7, hind toe 0·35.

Young. Similar to adult, but has the wing-coverts somewhat edged with ochre, and some of the quills dull rusty brown; the upper tail-coverts are broadly edged with blue and tinged with ochre, and the entire under surface of the body is also tinged with the last-named colour, the flanks being marked with brown; the tail is also entirely blue.

Hab. Island of Koffiao, near Mysol, in the Moluccas.

a. ♀ ad. sk.	Koffiao, July (*Hoedt*).	Leyden Museum [E.].

12. Tanysiptera margaritæ.

Tanysiptera nympha (*nec Gray*), *Reichenb. Handb., Alced.* p. 43, Taf. 406. figs. 3093–94 (1851).

Tanysiptera margarethæ, *Heine, J. f. O.* 1859, p. 406; *Scl. P. Z. S.* 1860, p. 347, note; *id. Ibis*, 1860, p. 421; *Heine, J. f. O.* 1861, p. 215; *Schl. Nederl. Tijdschr. Dierk.* iii. p. 272 (1866); *Sharpe, P. Z. S.* 1869, p. 361; *id. Monogr. Alced.* p. 277, pl. 108 (1870); *Salvad. Ann. Mus. Civic. Genov.* vii. p. 765 (1875).

Tanysiptera isis, *Gray, P. Z. S.* 1860, p. 347; *Wall. Ibis*, 1862, p. 350; *id. P. Z. S.* 1863, p. 24; *Schl. Nederl. Tijdschr. Dierk.* iii. p. 272 (1866).

Dacelo dea, pt., *Schl. Mus. Pays-Bas*, Alced. p. 43 (1863); *id. Vog. Nederl. Ind.* Alced. pp. 33, 62, pl. xiii. fig. 2 (1864); *Finsch, Neu-Guinea*, p. 161 (1865).

Tanysiptera margaretta, *Gray, Hand-l. B.* i. p. 90, no. 1070 (1869).

Tanysiptera dea, pt., *Schl. Mus. Pays-Bas*, Alced. *Revue*, p. 3 (1874).

Tanysiptera margaritæ, *Salvad. Ann. Mus. Genov.* x. p. 303 (1877); *id. Orn. Papuasia etc.* i. p. 430 (1880).

Adult. Crown of the head ultramarine, encircled with a line of bright cobalt feathers; forehead black; cheeks, ear-coverts, back and sides of neck, upper part of the back, and scapulars deep blue; lower part of the back and rump white; upper tail-coverts white, broadly edged with bright blue; quills brownish black, the inner web white at the base, the outer web sparingly margined with blue, some of the feathers having a dusky edging; tail-feathers white, margined with blue, the two middle feathers blue to half the extent of the spatula, which is elongated, the basal portion of the feathers being marked or irregularly streaked with white. Total length 13 inches, of bill from front 1·3, from gape 1·7, wing 3·6, tail 3·8, centre feathers 8, tarsus 0·5, middle toe 0·7, hind toe 0·3.

Hab. Islands of Gilolo and Batchian, in the Moluccas.

a. Ad. sk.	Moluccas.	Purchased.
b, *c*. Ad. et juv. sk.	Gilolo.	Wallace Coll.
d–*g*. Ad. sk.	Gilolo (*A. R. Wallace*: *Sharpe Coll.*).	Tweeddale Coll.
h–*n*. Ad. et juv. sk.	Batchian.	Wallace Coll.
o, *p*. Ad. et juv. sk.	Batchian (*Sharpe Coll.*).	Tweeddale Coll.
q, *r*. Ad. sk.	Batchian (*A. R. Wallace*).	Gould Coll.
s. Ad. st.	Batchian.	Wallace Coll.

13. Tanysiptera obiensis.

Tanysiptera dea, pt., *Schl. Nederl. Tijdschr. Dierk.* iii. p. 272 (1866); *id. Mus. Pays-Bas*, Alced. *Revue*, pp. 34, 38 (1874).
Tanysiptera obiensis, *Salvad. Ann. Mus. Genov.* x. p. 302 (1877), xii. p. 318 (1878); *id. Orn. Papuasia*, i. p. 433 (1880).

Adult female. General colour above black, with a strong wash of purplish blue, more distinct on the mantle than on the scapulars; lesser wing-coverts cobalt-blue, forming a bright shoulder-patch; greater coverts, bastard-wing, primary-coverts, and quills black, externally purplish blue; lower back, rump, and upper tail-coverts white, the centre ones edged with blue, the intermediate ones black on the outer web, white on the inner one; the lateral ones black, washed with blue; centre tail-feathers blue, with a broad white racket, and a slight edging of white about the middle of the inner web, the remainder white, externally edged with blue, the outer feather white with the external web blue; crown of head bright cobalt, each feather with a mesial streak of more brilliant blue, the sides of the hinder crown and the nape very slightly brighter than the crown; lores, sides of face, and ear-coverts deep purplish blue; cheeks and under surface of body pure white, some of the flank-feathers edged with black, producing a streaked appearance; under wing-coverts white, several edged with black; edge of wing bright blue. Total length 14 inches, culmen 1·65, wing 4·4, tail 4·6, centre tail-feathers 8·5, tarsus 0·6.

Hab. Obi Islands, in the Moluccas.

a. ♀ ad. sk.	Obi Lattou, Aug. 1862 (*Bernstein*).	Leyden Museum [E.].

14. Tanysiptera galatea*.

Tanysiptera dea (*nec L.*), *Vigors, Trans. Linn. Soc.* xiv. p. 433 (1825); *Less. Traité*, p. 245 (1831, pt.); *id. Compl. Buff., Ois.* p. 632 (1838); *Scl. Journ. Proc. Linn. Soc.* ii. p. 156 (1858); *Gray, P. Z. S.* 1858, p. 190; *id. Cat. Mamm. & B. N. Guin.* pp. 20, 55 (1859); *Rosenb. Nat. Tijdschr. Nederl. Ind.* xxv. p. 230 (1863); *id. J. f. O.* 1864, p. 118; *Schl. Mus. Pays-Bas*, Alced. *Revue*, p. 34 (1874, pt.); *D'Albert. Ibis*, 1876, p. 359.
Alcedo dea (*nec L.*), *Less. Voy. 'Coquille,'* i. pt. 2, p. 697 (1828); *id. Man. d'Orn.* p. 91 (1828, pt.).
Dacelo dea (*nec L.*), *S. Müll. Verh. Land- en Volkenk.* p. 22 (1839–44); *Schl. Mus. Pays-Bas*, Alced. p. 43 (1863, pt.); *id. Vog. Nederl. Ind.* pp. 33, 62 (pt.), pl. xiii. fig. 1 (1864); *Finsch, Neu-Guinea*, p. 161 (1865, pt.); *Rosenb. Reist. naar Geelvinkb.* pp. 83, 98 (1875).
Tanysiptera galatea, *Gray, P. Z. S.* 1859, p. 154; *Scl. P. Z. S.* 1859, p. 199, note; *Gray, P. Z. S.* 1860, p. 347, 1861, p. 433; *Wall. Ibis*, 1862, p. 350; *id. P. Z. S.* 1863, p. 24; *Schl. Nederl. Tijdschr. Dierk.* iii. p. 271 (1866); *Gray, Hand-l. B.* i. p. 90, no. 1071

* Dr. Meyer has recently described a form from Rubi in N.W. New Guinea as *T. galatea rubiensis* (Abhandl. k. Zool. Mus. Dresd. 1890–91, no. 4, p. 8).

(1869); *Sharpe, P. Z. S.* 1869, p. 631; *id. Monogr. Alced.* p. 281, pl. 110 (1871); *Salvad. Ann. Mus. Genov.* vii. p. 765 (1875), viii. p. 397 (1876); *Salvad. t. c.* pp. 127, 302 (1877); *id. Atti R. Accad. Sci. Tor.* xiii. p. 319 (1878); *Salvad. Orn. Papuasia etc.* i. p. 439 (1880); *Nehrk. J. f. O.* 1885, p. 31 (Waigiou); *Guillem. P. Z. S.* 1885, p. 626 (Batanta, Andai, Waigiou); *Salvad. Agg. Orn. Papuasia*, i. p. 54 (1889).

Tanysiptera rosenbergii, *Kaup* (ubi?), *teste Gray, Hand-l.* i. p. 90, no. 1079 (1869), iii. p. 307 (1871).

Dacelo rosenbergii, *Giebel, Thes. Orn.* ii. p. 8 (1875).

Adult. Head and nape brilliant ultramarine; cheeks, ear-coverts, sides of the neck, back, and scapulars deep blue-black; upper wing-coverts black, edged with dark blue, the interior ones bright ultramarine; quills black, the inner web white at the base, the outer web plentifully washed with dark blue; lower part of the back, rump, and upper tail-coverts pure white; tail-feathers white, with a narrow edging of blue on the outer web, the two middle tail-feathers blue as far as the spatula, a white spot or two at the base of the feathers, and a very narrow edging of white here and there on the inner web; entire under surface creamy white: bill sealing-wax red; feet olive-brown. Total length 17·5 inches, of bill from front 1·3, from gape 1·8, wing 4·4, tail 4·9, middle rectrices 11, tarsus 0·4, middle toe 0·8, hind toe 0·35.

Hab. New Guinea and Salawati. Islands of Batanta, Waigiou, and Guebeh.

a, b. Ad. sk.	New Guinea.	Tweeddale Coll.
c, d. Ad.; *e.* Juv. sk.	New Guinea.	Gould Coll.
f, g. Ad.; *h, i.* Juv. sk.	Dorey.	Wallace Coll.
k. ♀ juv. st.	Dorey.	Wallace Coll.
l, m. ♂ ♀ ad.; *n.* ♀ imm. sk.	Waigiou.	Wallace Coll.
o. ♀ ad. sk.	Waigiou (*A. R. Wallace*).	Gould Coll.

15. Tanysiptera microrhyncha.

Tanysiptera galatea (*nec Gray*), *Ramsay, Proc. Linn. Soc. N. S. Wales*, i. p. 390 (1877; Port Moresby); *id. op. cit.* iii. p. 259 (1879); *id. op. cit.* iv. p. 96 (1879); *D'Albert. Ann. Mus. Genov.* x. p. 19 (1877; Fly River).

Tanysiptera microrhyncha, *Sharpe, Journ. Linn. Soc.* xvi. p. 429 (1882: Moroco district and East Cape); *Finsch & Meyer, Zeitschr. ges. Orn.* iii. p. 13 (1886).

Tanysiptera galatea, var. minor, *Salvad. & D'Albert. Ann. Mus. Genov.* vii. p. 815 (1875); *Salvad. op. cit.* ix. p. 21 (1876); *id. P. Z. S.* 1876, p. 752; *D'Albert. & Salvad. Ann. Mus. Genov.* xiv. p. 49 (1879); *Ramsay, Proc. Linn. Soc. N. S. W.* iv. p. 90 (1879).

Tanysiptera microrhyncha, *Sharpe, Journ. Linn. Soc.* xiii. pp. 311, 493 (1878), xiv. pp. 629, 686 (1879); *Finsch & Meyer, Zeitschr. ges. Orn.* iii. p. 13 (1886); *Sharpe in Gould's B. N. Guinea*, iv. pl. 57 (1888); *Salvad. Agg. Orn. Papuasia*, i. p. 54 (1889).

Tanysiptera galatea, pt., *Salvad. Orn. Papuasia etc.* i. p. 438 (1880), iii. p. 523 (1882); *Finsch, Vög. der Südsee*, p. 24 (1884).

Adult. Similar to *T. galatea*, and having the mantle blue-black as in that species, but easily distinguished by its much smaller bill. Total length 12 inches, culmen 1·35, wing 4·1, tail 3·9, central feathers 7, tarsus 0·6.

Hab. S.E. New Guinea.

a, b. Juv. sk.	Aleya, S.E. New Guinea, April.	Dr. James [C.].
c. ♀ ad. sk.	Opposite Yule Island, Nov.	Dr. James [C.]. (Type of species.)
d, e. Ad. sk.	Opposite Yule Island, Feb., Nov. (*Dr. James*).	Tweeddale Coll.
f–k. Ad.; *l.* Juv. sk.	Inland from Port Moresby (*A. Goldie*).	Tweeddale & Gould Colls.
m. Ad. st.	Inland from Port Moresby (*A. Goldie*).	Sharpe Coll.

16. Tanysiptera rosseliana.

Tanysiptera rosseliana, *Tristr. Ibis*, 1889, p. 557 (Rossel Island).
Tanysiptera galatea (*nec Gray*), *De Vis, Brit. New Guinea, Report*, p. 108 (1890).

Adult. General colour above deep blue, including the mantle and scapulars; the entire back from the mantle downwards, including the upper tail-coverts and tail-feathers, white; the two centre tail-feathers with a long racket at the end, before which the narrow elongated portion of the feathers is blue; wing-coverts and quills black, externally deep blue, with a shoulder-patch of brighter blue on the lesser wing-coverts, which are of the same tint as the crown; entire crown, nape, and hind neck bright blue; a line across the base of the forehead, lores and eyelid black; cheeks, ear-coverts, and sides of neck deep blue; entire under surface of body white, with a patch of black feathers slightly washed with blue at the sides of the chest; thighs with a few blue feathers near the tibial joint; axillaries and under wing-coverts black with a slight wash of deep blue, the blue brighter near the edge of the wing; quills black. Total length 15 inches, culmen 1·3, wing 4·35, tail 4·7, central tail-feathers 10·3, tarsus 0·7.

Hab. Rossel Island, Louisiade Archipelago.

a. Ad. sk.	Rossel Island.	Salvin-Godman Coll.

17. Tanysiptera meyeri.

Tanysiptera galatea (*nec Gray*), *Meyer, Zeitschr. ges. Orn.* ii. p. 33 (1886, Kafu).
Tanysiptera meyeri, *Salvad. Agg. Orn. Papuasia etc.* i. p. 54 (1889); *Meyer, Abhandl. k. Zool. Mus. Dresd.* 1890–91, no. 4, p. 8.

Adult. Similar to *T. microrhyncha* and having the same small bill, but the upper parts more distinctly shaded with purple. The

head is uniform silvery blue, and the inner wing-coverts have the same tint, while the shade on the centre tail-feathers is greenish blue. Total length 15·5 inches, culmen 1·4, wing 4·15, tail 4, centre feathers 9·5, tarsus 0·6.

Hab. N.W. New Guinea and the interior of South-eastern New Guinea.

a. Ad. sk.	Finsch Harbour, N.W. New Guinea.	Purchased.
b. Ad. sk.	Inland from Port Moresby.	K. Broadbent [C.].

18. Tanysiptera dea.

? Martin-pêcheur à long brins, *Valentyn, Amboina*, p. 301, Taf. iii.

Le Martin-pescheur de Ternate, *Briss. Orn.* iv. p. 525, pl. 40. fig. 2 (1760).

Alcedo dea, *Linn. Syst. Nat.* i. p. 181 (1766); *Gm. Syst. Nat.* i. p. 458 (1788); *Lath. Ind. Orn.* i. p. 256 (1790); *Shaw, Gen. Zool.* viii. p. 73 (1811); *Cuv. Règne Anim.* i. p. 417 (1817); *Vieill. N. Dict. d'Hist. Nat.* xix. p. 417 (1818); *Wall. P. Z. S.* 1863, p. 24.

Martin-pêcheur de Ternate, *Daubent. Pl. Enl.* pl. 116.

Tanysiptera dea, *Vigors, Tr. Linn. Soc.* xiv. p. 433 (1825, pt.); *Gray, Gen. B.* i. p. 78 (1846); *Bp. Consp.* i. p. 157 (1850, pt.); *Reichenb. Handb., Alced.* p. 42, Taf. 405. fig. 3489 (1851); *Bp. Consp. Volucr. Anis.* p. 9 (1854); *Schl. Nederl. Tijdschr. Dierk.* iii. p. 339 (1866); *Gray, Hand-l. B.* i. p. 90, no. 1069 (1869); *Schl. Mus. Pays-Bas*, Alced. *Revue*, p. 34 (1874); *Salvad. Ann. Mus. Genov.* x. p. 303 (1877); *id. Orn. Papuasia etc.* i. p. 436 (1880).

Tanysiptera nais, *Gray, P. Z. S.* 1860, pp. 346, 347; *Wall. P. Z. S.* 1863, p. 24; *Schl. Nederl. Tijdschr. Dierk.* iii. p. 273 (1866); *Gray, Hand-l. B.* i. p. 90, no. 1074 (1869); *Sharpe, P. Z. S.* 1869, p. 631; *id. Monogr. Alced.* p. 279, pl. 109 (1871); *Cab. & Reichen. J. f. O.* 1876, p. 323.

Dacelo dea, pt., *Schl. Mus. Pays-Bas*, Alced. p. 43 (1863); *id. Vog. Nederl. Ind.* pp. 33, 62, pl. 13. figs. 3, 4 (1864); *Finsch, Neu-Guinea*, p. 161 (1865).

Adult. Head shining cobalt; cheeks, ear-coverts, sides and back of the neck, and upper portion of the back deep blue, distinctly spotted with cobalt on the latter; middle of the back and scapulars deep blue; wing-coverts bright cobalt, the outer ones deep blue; quills black, washed externally with bright blue; lower portion of the back and tail-coverts pure white; tail-feathers white, narrowly edged with blue on the outer web, the two middle feathers very long, white at the base, the rest of the feather blue as far as the spatula, which is white; entire under surface white, with a tinge of cream-colour: bill sealing-wax red; feet olive-brown. Total length 16 inches, bill from front 1·3, from gape 1·9, wing 4·2, tail 4·2, middle rectrices 10·2, tarsus 0·5, middle toe 0·7, hind toe 0·25.

Young. Head deep cobalt, brighter over the eye; cheeks, ear-coverts, and back of neck deep blue-black, mottled with blue on the latter as in the adult; back and scapulars dark brown, slightly

marked with rufous on the latter; wing-coverts black, more broadly edged with rufous and exhibiting a tinge of blue here and there; quills dark brown, slightly washed with blue near the base of the outer web, the secondaries slightly margined with rufous-brown; lower part of the back, rump, and upper tail-coverts fulvous-white, broadly margined with blackish; tail-feathers fulvous white at the base, broadly margined with blackish; middle tail-feathers bluish, broadened slightly towards the apex, white at the base of both webs, and longitudinally marked with fulvous-white near the tip; entire under surface fulvous, becoming white in one or two places, all the feathers margined with blackish, developing into two large black patches on either side of the upper part of the breast: bill dull sealing-wax red; feet olive-brown.

Hab. Islands of Amboina and Ceram, Monawolka, Boano, and Manipa.

a. Ad. sk.	Moluccas.	Purchased.
b. Ad. sk.	Moluccas.	Tweeddale Coll.
c, *d*. Ad. et juv. sk.	Moluccas (*Sharpe Coll.*).	Tweeddale Coll.
e. Ad. st.	Ceram.	Wallace Coll.
f, *g*. Ad.; *h*. Juv. sk.	Ceram.	Wallace Coll. (Types of species.)
i–*l*. Ad. sk.	Ceram (*A. R. Wallace*).	Gould Coll.
m. Ad. st.	Amboina.	Sir E. Belcher [P.].
n, *o*. Ad. et juv. sk.	Amboina.	Wallace Coll.
p. ♂ ad. sk.	Amboina, May 21 (*H. O. Forbes*).	Tweeddale Coll.

19. Tanysiptera riedeli.

Tanysiptera riedeli, *Verr. Nouv. Arch. Mus.* ii. *Bull.* p. 21, pl. 3. fig. 1 (1866); *Gray, Hand-l. B.* i. p. 90, no. 1080 (1869); *Sharpe, P. Z. S.* 1869, p. 631; *id. Monogr. Alced.* p. 283, pl. 111 (1871); *Riedel, P. Z. S.* 1872, p. 1; *Walden, Trans. Z. S.* viii. p. 45 (1872); *Meyer, Sitz. k. Akad. Wissensch. Wien*, lxix. p. 74 (1874); *Schl. Mus. Pays-Bas*, Alced. *Revue*, p. 40 (1874); *Rosenb. Reist. naar Geelvinkb.* pp. 47, 115, pl. 14. fig. 2 (1875); *Beccari, Ann. Mus. Civic. Genov.* vii. p. 708 (1875); *Rowley, Orn. Misc.* i. p. 176 (1876); *Salvad. Ann. Mus. Genov.* x. p. 303 (1877); *id. Orn. Papuasia etc.* i. p. 426 (1880).

Tanysiptera schlegelii, *Rosenb. MSS.*; *cf. Schl. Nederl. Tijdschr. Dierk.* iv. p. 12 (1871).

Dacelo riedeli, *Giebel, Thes. Orn.* ii. p. 8 (1875).

Adult. Crown of head and hind neck glistening silvery cobalt, each feather with a mesial streak of brighter silvery blue, the colour deepening slightly on the mantle and upper back; scapulars deep ultramarine with black bases; wing-coverts silvery cobalt like the head, the exterior median and greater coverts black, with ultramarine or silvery-blue ends; bastard-wing, primary-coverts, and quills black, externally ultramarine; lower back, rump, upper tail-coverts and tail white, the centre tail-feathers blue along the narrow portion, ending in a white racket: cheeks, sides of face,

and ear-coverts bright silvery cobalt, a little deeper blue on the sides of the neck; under surface of body pure white, the sides of the upper breast brown, washed with blue; the flanks also slightly mottled with black bases; under wing-coverts, axillaries, and quill-lining black; edge of wing silvery blue. Total length 13·5 inches, culmen 1·55, wing 4·1, tail 4, centre feathers 8, tarsus 0·65.

Hab. Island of Misori in the Bay of Geelvink, New Guinea.

a. ♂ ad. sk.	Kordo, Misori, April.	Dr. A. B. Meyer [C.].
b. ♀ ad.; *c.* Ad. sk.	Kordo, Misori, April (*A. B. Meyer*).	Tweeddale Coll.
d. ♀ ad. sk.	Kordo, Misori.	Gould Coll.

20. Tanysiptera carolinæ.

Tanysiptera carolinæ, *Schl. Nederl. Tijdschr. Dierk.* iv. p. 13 (1871; *ex Rosenb. MSS.*); *id. Mus. Pays-Bas,* Alced. *Revue,* p. 41 (1874); *Rosenb. Reist. naar Geelvinkb.* pp. 37, 115, 138, pl. 14. fig. 1 (1875); *Beccari, Ann. Mus. Genov.* vii. p. 708 (1875); *Gould, B. New Guinea,* iv. pl. 47 (1876); *Salvad. Ann. Mus. Civic. Genov.* x. p. 303 (1877); *id. Orn. Papuasia etc.* i. p. 424 (1880).

Adult male. General colour above deep ultramarine-blue; the wings like the back, the quills blackish at the ends and on the inner webs; lesser and median wing-coverts brighter than the rest of the wing; lower back, rump, upper tail-coverts, and tail white; sides of lower back and rump black, washed with blue; the exposed shaft of the two long tail-feathers blue, followed by a white racket; crown of head and hind neck ultramarine, brighter than the back, a little brighter above the ear-coverts; sides of face, ear-coverts, and entire under surface of body ultramarine; under tail-coverts white; under wing-coverts, axillaries, and under surface of quills black; the edge of the wing blue. Total length 13 inches, culmen 1·5, wing 4·2, tail 3·7, central tail-feathers 7, tarsus 0·7.

Hab. Island of Mafor in the Bay of Geelvink.

a, b. Ad. sk.	Mafor Island (*A. B. Meyer*).	Gould Coll.
c, d. Ad. sk.	Mafor Island (*A. B. M.*).	Tweeddale Coll.
e. ♂ ad. sk.	Mafor, May 30.	Dr. Beccari [C.].

Family MOMOTIDÆ.

(By R. B. SHARPE.)

Palate desmognathous. Basipterygoid processes absent. Sternum with four notches on posterior margin, converted into foramina. Two carotid arteries present.

Spinal feather-tract well-defined on neck, and not forked on the upper back. Aftershaft of contour-feathers present.

Cæca none.

Bill serrated.

Tail-feathers 12, in *Baryphthengus* 10, the centre ones generally ending in a large racket. Feet anisodactyle.

Range. Confined to Central and South America.

Cf. *Murie, Ibis*, 1872, pp. 383–412, pls. xiii.-xv.

Key to the Genera.

a. Nostrils oval, situated anteriorly in the nasal depression, the posterior portion of which is shut in by a horny membrane; the rictal bristles represented by antrorse feathers with well-formed radii ..... 1. Urospatha, p. 314.

b. Nostrils rounded, situated in the anterior part of the nasal cavity, but with no visible posterior membrane, the nasal plumes impinging on the base of the nostrils; rictal bristles hair-like, the plumes being almost devoid of radii.

a'. Tail longer than wing.

a''. Culmen flattened, with a conspicuous ridge, which is grooved: bill broader than high at nostrils. 2. Prionirhynchus, p. 315.

b''. Culmen without any grooved ridge.

a'''. Bill flattened, broader at nostrils than it is deep ..... 3. Eumomota, p. 317.

b'''. Bill as broad at the nostrils as it is deep.

*a*⁴. Centre tail-feathers with a well-defined racket ..... 4. Momotus, p. 318.

*b*⁴. Centre tail-feathers without a racket.

*a*⁵. Bill compressed; genys and culmen ridged; plumage like that of *Momotus*; tail-feathers 10 ..... 5. Baryphthengus, p. 330.

*b*⁵. Bill flattened, the genys and culmen flattened; plumage green, with a blue throat; tail-feathers 12..... 6. Aspatha, p. 331.

b'. Wing and tail about equal in length; size small ..... 7. Hylomanes, p. 332.

1. UROSPATHA.

Type.

Urospatha, *Salvad. Atti R. Accad. Torino*, iv. p. 179 (1872). U. martii.

Range. From Upper Amazonia to Colombia, Ecuador, and extending to Panama and Costa Rica.

1. Urospatha martii.

Prionites martii, *Spix, Av. Bras.* ii. p. 64, Taf. lx. (1824); *Tschudi, Faun. Peruan.* p. 252 (1855).

Momotus martii, *Gray, Gen. B.* i. p. 68 (1847); *Scl. Cat. Amer. B.* p. 262 (1862); *Schl. Mus. Pays-Bas*, Momotus, p. 4 (1863); *Scl. & Salv. P. Z. S.* 1864, p. 363 (Panama), 1866, p. 191 (Ucayali), 1867, p. 751 (Chyavetas); *Gray, Hand-l. B.* i. p. 80, no. 939 (1869); *Salv. P. Z. S.* 1870, p. 201 (Veragua); *id. Ibis*, 1872, p. 320 (Nicaragua); *Scl. & Salv. P. Z. S.* 1873, p. 292 (Upper Ucayali); *Berl. & Tacz. P. Z. S.* 1883, p. 571 (W. Ecuador).

Crypticus martii, *Bp. Consp.* i. p. 165 (1850).

Momotus semirufus, *Scl. Rev. Zool.* 1853, p. 489 (Santa Marta); *Scl. P. Z. S.* 1855, p. 136 (Bogota), 1857, p. 254; *Schl. Mus. Pays-Bas*, Momotus, p. 5 (1863).

Baryphonus semirufus, *Bp. Consp. Vol. Anis.* p. 8 (1854).

Crybelus marti, *Cab. & Heine, Mus. Hein.* Th. ii. p. 112 (1860); *Tacz. P. Z. S.* 1874, p. 547.

Urospatha martii, *Salvad. Atti R. Accad. Sci. Torino*, iv. p. 179 (1872); *Scl. & Salv. Nomencl. Av. Neot.* p. 102 (1873); *Zeledon, Proc. U. S. Nat. Mus.* viii. p. 109 (1885; Costa Rica); *Tacz. Orn. Pérou*, iii. p. 111 (1886; Central Peru, Monterico).

Baryphthengus martii, *Berlepsch, J. f. O.* 1889, p. 308 (Yurimaguas).

Adult male. General colour above bright green, the wing-coverts and secondaries like the back; bastard-wing, primary-coverts, and primaries dusky blackish, externally blue, the outer ones purple on the outer web; tail-feathers green, becoming blue towards their ends; the shafts black, the centre feathers produced and ending in a blue racket, which is blackish towards the ends; head, neck, and under surface of body bright cinnamon; sides of neck green like the back; lores, feathers round the eye, cheeks, and ear-coverts black; on the fore neck an elongated tuft of black feathers; lower abdomen, thighs, and under tail-coverts greenish blue; under wing-coverts greenish blue; quills blackish below. Total length 17 inches, culmen 2·1, wing 6·1, tail 6·4, centre feathers 10, tarsus 1·45.

Adult female. Similar to the male in colour. Total length 18·5 inches, culmen 2, wing 6, tail 7, centre feathers 11, tarsus 1·3.

Young. Coloured like the adult, but duller; the lower abdomen, vent, and under tail-coverts green instead of blue; the centre feathers not having the racket.

Hab. The same as that of the genus.

a. Ad. sk.	Chontales, Nicaragua (*T. Belt*).	Salvin-Godman Coll.
b. Ad. sk.	Costa Rica (*J. Carmiol*).	Salvin-Godman Coll.
c. ♂ ad. sk.	Costa Rica (*J. Carmiol*).	Sclater Coll.

d. ♀ ad. sk.	Angostura, Costa Rica, Feb. 5 (*J. Carmiol*).	Salvin-Godman Coll.
e, f. ♂ ad.; *g.* ♀ ad. sk.	Santa Fé, Veragua (*E. Arcé*).	Salvin-Godman Coll.
h. ♂ ad. sk.	Panama (*J. McLeannan*).	Salvin-Godman Coll.
i. Ad. sk.	Panama (*J. McLeannan*).	Sclater Coll.
k, l. Ad. sk.	Panama.	Purchased.
m. ♂ ad. sk.	Remedios, Antioquia (*T. K. Salmon*).	Salvin-Godman Coll.
n, o. Ad. sk.	Ecuador.	Gould Coll.
p. Ad. sk.	Ecuador.	Sclater Coll.
q, r. Ad. et juv. sk.	Sarayacu, Ecuador (*C. Buckley*).	Salvin-Godman Coll.
s. ♀ ad. sk.	Chayavetas, E. Peru, Aug. 21 (*E. Bartlett*).	Salvin-Godman Coll.
t, u. Imm. sk.	Apollo, Bolivia (*C. Buckley*).	Salvin-Godman Coll.

2. PRIONIRHYNCHUS.

	Type.
Crypticus, *Swains. Classif. B.* ii. 1837, p. 338 (*nec Lafr.* 1817)	P. platyrhynchus.
Prionirhynchus, *Scl. P. Z. S.* 1857, p. 265	P. carinatus.

Range. From Upper Amazonia through Colombia to Panama as high as Guatemala and British Honduras.

Key to the Species.

a. Head, neck, and throat cinnamon-rufous; no blue on eyebrow and chin ..... *platyrhynchus,* [p. 315.

b. Head, neck, and throat green or olive-green, with a broad blue eyebrow, as well as a chin-patch of blue ..... *carinatus,* p. 316.

1. Prionirhynchus platyrhynchus.

Momotus platyrhynchus, *Leadb. Trans. Linn. Soc.* xvi. p. 92 (1833); *Jard. & Selby, Ill. Orn.* iii. pl. 106.

Crypticus platyrhynchus, *Swains. Classif. B.* ii. p. 338 (1837).

Prionirhynchus platyrhynchus, *Scl. P. Z. S.* 1857, p. 256; *Scl. & Salv. P. Z. S.* 1864, p. 362 (Panama); *Salv. P. Z. S.* 1867, p. 151 (Veragua); *Scl. & Salv. t. c.* p. 279 (Mosquitia); *Salvin, Ibis,* 1872, p. 321 (Nicaragua); *Scl. & Salv. Nomencl. Av. Neotr.* p. 102 (1873); *id. P. Z. S.* 1879, p. 534 (Antioquia).

Adult. General colour above grass-green; wings like the back, the primaries externally blue; tail-feathers blue, washed with green, the shafts black; all the tail-feathers blackish at the ends, the centre feathers produced into a blue racket, tipped with black; head and neck all round deep cinnamon-rufous; lores, feathers round the eye, and a streak along the ear-coverts black; cheeks, sides of face, throat, and breast deep cinnamon-rufous; the chin emerald-green; on the fore neck a mass of elongated black feathers; lower breast and abdomen bluish green; sides of body and under tail-coverts inclining to grass-green; under wing-coverts rufescent,

those near the edge of the wing green. Total length 13 inches, culmen 1·5, wing 4·3, tail 5, centre feathers 6·7, tarsus 0·75.

Hab. Upper Amazonia to Ecuador, Colombia, Panama, and Costa Rica.

a. Ad. sk.	Chontales, Nicaragua (*T. Belt*).	Salvin-Godman Coll.
b. ♀ ad. sk.	Angostura, Costa Rica, June 19 (*J. Carmiol*).	Salvin-Godman Coll.
c. ♂ ad. sk.	Santa Fé, Veragua (*E. Arcé*).	Salvin-Godman Coll.
d, e, f. Ad. sk.	Chepo, Panama, Nov. (*E. Arcé*).	Salvin-Godman Coll.
g. Ad. sk.	Panama (*J. McLeannan*).	Sclater Coll.
h. ♂ ad. sk.	Panama (*J. McLeannan*).	Salvin-Godman Coll.
i. Ad. sk.	Remedios, Antioquia (*T. K. Salmon*).	Sclater Coll.
k. ♂ ad. sk.	Remedios (*T. K. Salmon*).	Salvin-Godman Coll.
l. Ad. sk.	U.S. Colombia.	Purchased.
m, n. Ad. sk.	Sarayacu, Ecuador (*C. Buckley*).	Salvin-Godman Coll.
o. Ad. sk.	Yauayacu, Ecuador (*C. Buckley*).	Salvin-Godman Coll.

2. Prionirhynchus carinatus.

Prionites carinatus, *DuBus, Bull. Acad. Bruxelles*, xiv. pt. 2, p. 108 (1847); *id. Rev. Zool.* 1848, p. 249.

? Crypticus carinatus, *Bp. Consp.* i. p. 165 (1850).

Prionirhynchus carinatus, *Scl. P. Z. S.* 1857, p. 257, pl. 128 (Guatemala), 1858, p. 357 (Yojoa); *Scl. & Salv. Ibis*, 1859, p. 132; *Taylor, Ibis*, 1860, p. 117; *Scl. Cat. Amer. B.* p. 263 (1862; Lake Yojoa) (1869); *Salv. Ibis*, 1872, p. 321 (Nicaragua); *Scl. & Salv. Nomencl. Av. Neotr.* p. 102 (1873); *Boucard, P. Z. S.* 1878, pp. 39, 49 (Costa Rica).

Momotus carinatus, *Gray, Hand-l. B.* i. p. 81, no. 946 (1869).

Adult. Similar to *P. platyrhynchus* as regards the colour of the back, wings, and tail, but entirely wanting the cinnamon-rufous colour on the head, neck, and breast; the crown green, a little lighter than the back, with a streak of bright blue over the eye; base of forehead rufous ochre; lores, feathers round the eye, and ear-coverts black; cheeks, ear-coverts, and under surface of body green, washed with golden olive on the fore neck and chest; below the black ear-coverts a shade of blue, and a conspicuous blue chin-patch; on the fore neck a large patch of elongated black plumes; under tail-coverts dull green, washed with ochre at the base. Total length 11·5 inches, culmen 1·45, wing 4·35, tail 6, tarsus 0·7.

Hab. Central America, from British Honduras to Nicaragua.

a. Ad. sk.	Belize, British Honduras (*J. Blancaneaux*).	Salvin-Godman Coll.
b. Ad. sk.	Guatemala.	Salvin-Godman Coll.
c. Ad. sk.	Guatemala.	Sclater Coll.
d. Ad. sk.	Lake of Yojoa, Honduras (*G. C. Taylor*).	Sclater Coll.
e. Ad. sk.	Chontales, Nicaragua (*T. Belt*).	Salvin-Godman Coll.

3. EUMOMOTA.

	Type.
Eumomota, *Scl. P. Z. S.* 1857, p. 257	E. superciliaris.
Spathophorus, *Cab. & Heine, Mus. Hein.* Th. ii. p. 112 (1860)	E. superciliaris.

Range. Central America from Honduras to Chiriqui.

1. Eumomota superciliaris.

Prionites superciliaris, *Sandbach, Rep. Brit. Assoc.* 1837, p. 99.
Prionites (Crypticus) superciliaris, *Jard. & Selby, Ill. Orn.* iv. pl. 18 (c. 1838).
Crypticus superciliosus, *Swains. An. in Menag.* p. 358 (1837).
Crypticus apiaster, *Less. Rev. Zool.* 1842, p. 174.
Momotus yucatanensis, *Cabot, Proc. Bost. Soc. N. H.* 1843, p. 156, 1844, p. 466; *Gray, Gen. B.* i. p. 68 (1847).
Crypticus superciliaris, *Bp. Consp.* i. p. 165 (1850).
Momotus superciliaris, *Gray, Gen. B.* i. p. 68 (1847); *id. List Fissir. Brit. Mus.* p. 40 (1848); *id. Hand-l. B.* i. p. 80, no. 944 (1869); *Schl. Mus. Pays-Bas*, Momotus, p. 7 (1863).
Prionites yucatanensis, *Bp. Consp.* i. p. 165 (1850).
Eumomota superciliaris, *Scl. P. Z. S.* 1857, p. 257; *Moore, P. Z. S.* 1859, p. 54 (Omoa); *Scl. & Salv. Ibis*, 1859, p. 132 (Guatemala); *Salv. Ibis*, 1860, p. 195; *Owen, Ibis*, 1861, p. 64 (nesting); *Scl. Cat. Amer. B.* p. 263 (1862); *id. & Salv. P. Z. S.* 1870, p. 837 (Honduras); *iid. Nomencl. Av. Neotr.* p. 103 (1873); *Scl. Ibis*, 1873, p. 373 (Chontales); *Boucard, P. Z. S.* 1878, p. 49 (Costa Rica); *Nutting, Proc. U. S. Nat. Mus.* v. p. 399 (1882), vi. p. 387 (1883); *Salvin, Ibis*, 1889, p. 371 (Meco Island; Yucatan).
Spathophorus superciliaris, *Cab. & Heine, Mus. Hein.* Th. ii. p. 112 (1860).

Adult male. General colour above grass-green, with somewhat of an oily-green shade on the head and neck; the mantle cinnamon, with some of the feathers greenish at the ends; wing-coverts grass-green, the greater series bluish on the inner web; bastard-wing blue; primary-coverts black, forming a patch; quills blue, black at the ends, the black tip decreasing in size towards the innermost secondaries, where it disappears; the outermost primary blue only on the inner web; tail-feathers blue, with black shafts and tips, the two centre ones produced into a long bare shaft, with a broad racket of blue with the terminal half black; crown grass-green, with a broad superciliary band, commencing at the base of the nostril, first silvery white and then shading off into silvery cobalt; lores black as well as the feathers below the eye, the latter spangled with a few silvery-blue spots: ear-coverts black, produced into an elongated band of black; above the ear-coverts and behind the eye a small spot of chestnut; sides of face, cheeks, sides of throat and of neck, as well as the fore neck and breast, oily green, becoming grass-green on the fore neck and breast; at the base of the cheeks a few spots of silvery blue: centre of throat black, forming a broad streak, which is bordered on each side by a band of elongated silvery-blue feathers; sides of body, abdomen, under tail-coverts, as well as the under wing-coverts and axillaries, pale ferruginous; thighs green; quills below blackish, ashy rufous along the inner

web. Total length 15 inches, culmen 1·6, wing 4·5, tail 4·3, centre feathers 9·5, tarsus 0·8.

Hab. Central America from Yucatan to Costa Rica.

a. Ad. sk.	Central America.	Zoological Society.
b, *c.* Ad. st.	Bay of Campeche.	Purchased.
d. Ad. sk.	Meco Is., Yucatan, Dec. (*G. F. Gaumer*).	Salvin-Godman Coll.
e, *f*, *g.* Ad. sk.	Northern Yucatan (*G. F. Gaumer & E. C. Devis*).	Salvin-Godman Coll.
h–*m.* Ad. sk.	Peto, Yucatan(*G. F. Gaumer*).	Salvin-Godman Coll.
n–*u.* Ad. sk.	Buctzotz, Yucatan, April (*G. F. Gaumer*).	Salvin-Godman Coll.
v. Ad. sk.	Merida, Yucatan, Dec. (*A. Schott*).	Salvin-Godman Coll.
w, *x.* Ad. sk.	Temax, Yucatan, May (*G. F. Gaumer*).	Sclater Coll.
y, *z.* Ad. sk.	Guatemala.	Gould Coll.
a', *b'*. ♂ ad.; *c'*. Juv. sk.	Retalhuleu, Guatemala, July (*W. B. Richardson*).	Salvin-Godman Coll.
d'. ♀ ad. sk.	San José, Guatemala, Jan. (*O. S.*).	Salvin-Godman Coll.
e'. ♂ ad.; *f'*, *g'*, *h'*. ♀ ad. sk.	San Gerónimo, Guatemala, Oct., Dec. (*O. S.*).	Salvin-Godman Coll.
i', *k'*, *l'*, *m'*. Ad. sk.	La Libertad, S. Salvador, Feb., March (*W. B. Richardson*).	Salvin-Godman Coll.
n', *o'*. ♂; *p'*. ♀ ad. sk.	S. Miguel, S. Salvador, March, April (*W. B. R.*).	Salvin-Godman Coll.
q'. Ad. sk.	San Pedro, Honduras (*G. M. Whitely*).	Salvin-Godman Coll.
r', *s'*. Ad. sk.	San Pedro (*G. M. Whitely*).	Sclater Coll.
t'. Ad. sk.	Chontales, Nicaragua(*T. Belt*).	Salvin-Godman Coll.
u'–*z'*. ♂ ad. et juv. sk.	Chinandega, Nicaragua, April, May (*W. B. Richardson*).	Salvin-Godman Coll.
a'', *b''*. Ad. sk.	Bebedero, Nicoya, Costa Rica (*E. Arcé*).	Salvin-Godman Coll.

4. MOMOTUS.

	Type.
Momotus, *Briss. Orn.* iv. p. 465 (1760)	M. momota.
Baryphonus, *Vieill. Analyse*, p. 48 (1816)	M. momota.
Prionites, *Illiger, Prodr.* p. 224 (1811)	M. momota.

Range. Central America from Mexico to Panama, and South America to the Amazonian Subregion and Bolivia.

Key to the Species.

a. Head blue, or blue with a black coronal patch.
  a'. Centre of the crown black.
    a''. Hind neck with a patch of chestnut below the blue nape-cincture; under surface of body greenish, or ochreous with a greenish tinge ..... *momota*, p. 319.
    b''. Entire hind neck chestnut, overspreading the mantle; under surface of body rufescent..... *bartletti*, p. 320.
    c''. No distinct patch of rufous on the nape or hind neck, but a shade of orange-

rufous concealed by the blue nape; under surface of body rufescent .... *subrufescens*, p. 321.

d''. No rufous on the hind neck, which resembles the mantle and sides of the neck in colour.

a'''. Under surface green or olive with a slight tawny shade.

*a*⁴. Size smaller: without a broad bar of black round the blue nape-cincture, some few feathers black-centred or black-tipped.

*a*⁵. Coronal spot of black large .... *nattereri*, p. 322.

*b*⁵. Coronal spot of black small.... *microstephanus*, p. 322.

*b*⁴. Size rather larger; a broad band of black round the blue nuchal cincture.

*c*⁵. Larger: light streak below the black cheeks obsolete or represented by a few green feathers only; purplish shade on nuchal cincture obsolete .. *æquatorialis*, p. 323.

*d*⁵. Smaller: light streak below the black cheeks always well pronounced and bright blue; nuchal cincture with a purplish shade posteriorly ..... *lessoni*, p. 324.

b'''. Under surface chestnut, the throat like the rest of the abdomen and breast ..... *swainsoni*, p. 326.

b'. Entire crown blue, with no black centre.. *cæruleiceps*, p. 327.

b. Head chestnut.

c'. Black of sides of face bordered above and below with blue ..... *mexicanus*, p. 328.

d'. No blue on the sides of the face ..... *castaneiceps*, p. 329.

1. Momotus momota.

Rhamphastus momota, *Linn. S. N.* i. p. 152 (1766); *Gm. Syst. Nat.* i. p. 357 (1788).

Motmot du Brésil, *Daubent. Pl. Enl.* vi. pl. 370.

Brazilian Motmot, *Lath. Gen. Syn.* i. p. 338, pl. x. (1781).

Momotus brasiliensis, *Lath. Ind. Orn.* i. p. 140 (1790); *Gray, Gen. B.* i. p. 68 (1847); *id. Cat. Fissir. Brit. Mus.* p. 39 (1848); *Scl. P. Z. S.* 1857, p. 250 (Cayenne, etc.); *id. Cat. Amer. B.* p. 263 (1862); *Schl. Mus. Pays-Bas*, Momotus, p. 2 (1863); *Pelz. Orn. Bras.* p. 19 (1868); *Scl. & Salv. Nomencl. Av. Neotr.* p. 102 (1873); *Gray, Hand-l. B.* i. p. 79, no. 930 (1869); *Murie, Ibis*, 1872, p. 387; *Salvin, Ibis*, 1886, p. 60 (Brit. Guiana).

? Le Motmot ou Houtou, *Levaill. Hist. Nat. Ois. Parad. Rolliers*, i. p. 108, pls. 37, 38 (1806).

Prionites momota, *Illiger, Prodr.* p. 224 (1811); *Cab. in Schomb. Reis. Guian.* iii. p. 704 (1848); *Bp. Consp.* i. p. 165 (1850); *Cab. & Heine, Mus. Hein.* Th. ii. p. 114 (1860).

Baryphonus cyanocephalus, *Vieill. N. Dict. d'Hist. Nat.* xxi. p. 315 (1818).

Momotus momota, *Jard. & Selby, Ill. Orn.* ii. Syn. no. 1; *Stejn. Stand. Nat. Hist. Birds*, p. 398 (1885).

Prionites brasiliensis, *Swains, Classif. B.* ii. p. 388 (1837); *Burm. Th. Bras.* ii. p. 412 (1856).

Adult male. General colour above grass-green, the wing-coverts and secondaries like the back; bastard-wing, primary-coverts, and outer aspect of quills blue; tail-feathers green at base, becoming blue towards the ends, the middle ones having an elongated blue racket which is black at the ends; centre of crown black; forehead silvery cobalt, extending backwards over the eye and deepening into an ultramarine band which surrounds the black crown; hind neck with a ferruginous patch; lores, feathers below the eye, and ear-coverts black, the latter tapering to a point posteriorly; above the ear-coverts a narrow line of silvery-blue feathers, and another line of blue separating the black of the sides of the face from the cheeks; sides of hinder crown, sides of neck, and cheeks green, with somewhat of an olive tinge; under surface of body olive-greenish, with a ruddy tint on the throat and sides of body and abdomen; in the centre of the fore neck a long patch of hackle-like feathers, bordered with greenish blue; thighs and under tail-coverts greenish like the breast; under wing-coverts pale reddish buff; edge of wing green; quills below dusky, ashy fulvous along the edge of the inner web. Total length 17·5 inches, culmen 1·7, wing 5·8, tail 6·8, centre feathers 10·3, tarsus 1.

Adult female. Similar to the male in colour, but rather greener underneath.

Two specimens from Para are smaller, have a smaller chestnut spot on the back of the neck, and a deep cinnamon-coloured under surface. Total length 15·5 inches, wing 5·5, tail 6·75, long feathers 9·6, tarsus 1. Should further specimens confirm these differences, the bird may be called *M. parensis*.

Hab. Guiana, extending to the Rio Negro along the Amazon region to Para.

a. Ad. st.	South America.	J. Gould, Esq.
b, c. Ad. sk.	Cayenne.	Sclater Coll.
d. Ad. sk.	Demerara.	Gould Coll.
e. Ad. sk.	Demerara.	W. T. Turner, Esq. [P.].
f, g. ♂ ♀ ad. sk.	Bartica Grove, British Guiana, Oct., Nov. (*H. Whitely*).	Salvin-Godman Coll.
h. ♂ ad. sk.	River Atapurow, Jan. 26 (*H. Whitely*).	Salvin-Godman Coll.
i. ♀ ad. sk.	Roraima, Jan. 6 (*H. Whitely*).	Salvin-Godman Coll.
k. ♂ ad. sk.	Barra, Rio Negro, July 26 (*J. Natterer*).	Salvin-Godman Coll.
l, m. Ad. sk.	Para.	Gould Coll.

2. **Momotus bartletti.** (Plate IX.)

? Prionites brasiliensis, *Tschudi & Cab. Faun. Peruan., Orn.* p. 251 (1855).

Momotus brasiliensis (*nec Lath.*), *Scl. P. Z. S.* 1857, p. 250 (pt., spec. ex Fl. Ucayali); *Scl. & Salv. P. Z. S.* 1866, p. 191 (1873), p. 292 (Upper Ucayali; Chamicuros); *Tacz. P. Z. S.* 1862, p. 43 (Yurimaguas); *id. Orn. Pérou*, iii. p. 108 (1886).

Adult. Similar to *M. momota*, but instead of having a chestnut patch on the hind neck, the whole of the latter is chestnut and this colour overspreads the upper mantle; under surface of body rufescent. Total length 16 inches, culmen 1·7, wing 5, tail 6, centre tail-feathers 9, tarsus 1·1.

Hab. From Colombia to the Peruvian Amazons *.

a. ♀ ad. sk.	Upper Ucayali (*E. Bartlett*).	Sclater Coll.
b. Ad. sk.	Bogota.	Sclater Coll. (One of the types of *M. microstephanus*.)

3. Momotus subrufescens. (Plate X. fig. 1.)

Momotus subrufescens, *Scl. Rev. Zool.* 1853, p. 489; *id. P. Z. S.* 1857, p. 252 (Santa Marta); *id. Cat. Amer. B.* p. 261 (1862; Santa Marta); *Lawr. Ann. Lyc. N. Y.* vii. p. 318 (1862); *Schl. Mus. Pays-Bas*, Momotus, p. 3 (1863); *Gray, Hand-l. B.* i. p. 79, no. 931 (1869); *Murie, Ibis*, 1872, p. 401; *Scl. & Salv. Nomencl. Av. Neotr.* p. 102 (1873; Colombia to Panama); *Salvin & Godman, Ibis*, 1880, p. 174 (Santa Marta).

? Prionites parvirostris, *Bp. C. R.* xxxviii. p. 659 (1854); *id. Consp. Volucr. Anis.* p. 8 (1854).

Prionites subrufescens, *Bp. Consp. Volucr. Anis.* p. 8 (1854); *Cab. & Heine, Mus. Hein.* Th. ii. p. 114 (1860).

Momotus swainsoni (*nec Scl.*, 1862), *Scl. & Salv. P. Z. S.* 1868, p. 628 (San Esteban).

Adult female. Similar to *M. momota*, but smaller, the band on the crown silvery cobalt, becoming purplish cobalt on the nuchal cincture; the hind neck and sides of neck chestnut, overspreading the mantle; the green of the upper surface and tail lighter and more ochraceous than in *M. brasiliensis*; under surface of body cinnamon-rufous, not green, but showing a little green on the throat: "iris rich brownish red" (*F. Simons*). Total length 15·5 inches, culmen 1·7, wing 5, tail 5·8, centre tail-feathers 9·3, tarsus 1·05.

The Venezuelan specimens differ from those from Santa Marta in having the posterior margin of the black crown nearly pure ultramarine-blue. They may prove to be a distinct species and may be called *Momotus venezuelæ*. The Bogota and Panama specimens agree with the typical forms from Santa Marta, as do also those from Matto Grosso, but some of the latter seem to be slightly intermediate.

Hab. From Panama to Colombia and Venezuela, south to Matto Grosso.

a. Ad. sk.	Mina de Chorcha, Chiriqui (*E. Arcé*).	Sclater Coll.
b, c. Ad. sk.	Chepo, Isthmus of Panama, Nov. (*E. Arcé*).	Salvin-Godman Coll.
d, e. ♂ ♀ ad. sk.	Panama (*J. McLeannan*).	Salvin-Godman Coll.
f, g. Ad. sk.	U.S. Colombia.	Gould Coll.

* I expected that this new species would have proved identical with *M. brasiliensis ignobilis* of Berlepsch (J. f. O. 1889, p. 308); but this cannot be the case, as the greener under surface is a marked character of the latter bird. A specimen from Para (Wallace) may belong to *M. ignobilis*.

h. Ad. sk.	U.S. Colombia.	Purchased.
i. Ad. st.	U.S. Colombia.	
k. Ad. sk.	Santa Marta, U.S. Colombia.	Sclater Coll. (Type of species.)
l, m. Ad. sk.	Santa Marta (*A. Boucard*).	Salvin-Godman Coll.
n. ♂ ad. sk.	Santa Marta, Feb. 19 (*F. A. A. Simons*).	Salvin-Godman Coll.
o. ♂ ad. sk.	San Esteban, Venezuela, June (*A. Goering*).	Salvin-Godman Coll.
p. ♂ imm. sk.	San Esteban, Venezuela.	Purchased.
q. ♂ ad. sk.	Puerto Cabello, Venezuela (*A. Goering*).	Salvin-Godman Coll.
r. ♂ ad. sk.	Puerto Cabello (*A. Goering*).	Sclater Coll.
s–w. ♂ ad.; *x, y, z.* ♀ ad. sk.	Chapada, Matto Grosso, Brazil, Feb., March, May, July, Aug., Sept. (*H. H. Smith*).	Salvin-Godman Coll.

4. Momotus nattereri.

Momotus nattereri, *Scl. P. Z. S.* 1857, p. 251 (Yungas; Goyaz); *id. Cat. Amer. B.* p. 262 (1862; Bolivia); *Pelz. Orn. Bras.* p. 19 (1868); *Gray, Hand-l. B.* i. p. 80, no. 935 (1869); *Scl. & Salv. Nomencl. Av. Neotr.* p. 102 (1873); *iid. P. Z. S.* 1879, p. 632 (Yungas).

Momotus brasiliensis (*nec Lath.*), *Scl. & Salv. P. Z. S.* 1867, p. 581 (Para).

Prionites nattereri, *Cab. & Heine, Mus. Hein.* Th. ii. p. 113, note (1860).

Adult male. Similar to *M. momota*, but easily distinguished by the absence of the chestnut patch on the hind neck; under surface greenish with an ochraceous tinge; hinder crown purplish blue, of a different tint from the forehead, which is silvery cobalt. Total length 16 inches, culmen 1·55, wing 5·25, tail 5·3, tarsus 1·05.

Hab. Brazil to Upper Amazonia and Bolivia.

a, b. Imm. sk.	Pernambuco, Brazil (*W. A. Forbes*).	Salvin-Godman Coll.
c. ♂ ad. sk.	Matto Grosso, Brazil, Nov. 1 (*J. Natterer*).	Salvin-Godman Coll.
d. Ad. sk.	Interior of Brazil (*J. Natterer*).	Sclater Coll.
e. ♀ imm. sk.	Chamicuros, Upper Amazons, Nov. (*E. Bartlett*).	Gould Coll.
f. ♂ ad. sk.	Yquitos, Aug. 23 (*H. Whitely*).	Salvin-Godman Coll.
g. Ad. sk.	Bolivia (*Bridges*).	Eyton Coll.
h. Ad. sk.	Bolivia.	Gould Coll.
i. Ad. sk.	Bolivia.	Sclater Coll.

5. Momotus microstephanus. (Plate X. fig. 2.)

Momotus brasiliensis (*nec Lath.*), *Scl. P. Z. S.* 1855, p. 135 (Bogota).

Momotus microstephanus, *Scl. P. Z. S.* 1857, p. 251 (New Granada), 1860, p. 296 (Esmeraldas); *id. Cat. Amer. B.* p. 261 (1862); *Schl. Mus. Pays-Bas*, Momotus, p. 3 (1863); *Gray, Hand-l. B.* i. p. 80, no. 934 (1869); *Scl. & Salv. Nomencl. Av. Neotr.* p. 102 (1873); *Tacz. P. Z. S.* 1877, p. 328 (Lechugal); *Berl. & Tacz. P. Z. S.* 1883, p. 571 (W. Ecuador); *Tacz. & Berl. P. Z. S.* 1885, p. 197 (Yaguachi).

Prionites microstephanus, *Cab. & Heine, Mus. Hein.* Th. ii. p. 114 (1860).

Adult male. Similar to *M. momota*, but with a more ruddy tinge on the green, and the under surface of the body entirely cinnamomeous, with a green tinge on the throat; no chestnut patch on the back of the neck; the black coronal patch reduced in size and entirely surrounded by a band of silvery cobalt; the feathers of the nape tipped with ultramarine, forming a narrow terminal band on the nape.

There seem to be two races of this species, specimens from the Santa Rita mountains having a broad band of silvery greenish blue entirely encircling the black coronal patch. Fraser's Babahoyo specimens also seem to belong to this race, and if they should prove to be distinct, as I expect they will, they may be called *Momotus argenticinctus*. Total length 16·5 inches, culmen 1·65, wing 5·2, tail 5·8, centre tail-feathers 9, tarsus 1·1.

Hab. Colombia to Western Ecuador.

a. *M. microstephanus.*

a. Ad. sk.	[Nicaragua (*Sallé*).]	Sclater Coll.
b. Ad. sk.	U. S. Colombia.	Sclater Coll. (Type of species.)
c. Imm. sk.	(Of Bogota make.)	Gould Coll.
d. Ad. sk.	Esmeraldas, Ecuador (*L. Fraser*).	Sclater Coll.

b. *M. argenticinctus.*

a, b. Ad. sk.	Santa Rita, Ecuador (*C. Buckley*).	Salvin-Godman Coll.
c, d. ♂ ♀ ad. sk.	Babahoyo, Ecuador, Aug. (*L. Fraser*).	Salvin-Godman Coll.
e. Ad. sk.	Babahoyo (*L. Fraser*).	Sclater Coll.

6. Momotus æquatorialis. (Plate XI.)

? Momotus grandis, *Lafr.* (ubi ?).
Momotus æquatorialis, *Gould, P. Z. S.* 1857, p. 223 (Archidona); *Scl. t. c.* p. 250; *id. P. Z. S.* 1858, p. 61 (Rio Napo); *Gray, Hand-l. B.* i. p. 80, no. 933 (1869); *Scl. & Salv. Nomencl. Av. Neotr.* p. 102 (1873); *iid. P. Z. S.* 1879, pp. 534, 549 (Antioquia).
Prionites nattereri, pt., *Cab. & Heine, Mus. Hein.* Th. ii. p. 113, note (1859).

Adult male. Similar to *M. lessoni* but much larger, and distinguished by the absence of the blue line below the fore part of the cheeks, which is replaced by a narrow line of emerald-green: "iris red" (*T. K. Salmon*). Total length 20 inches, culmen 1·9, wing 5·9, tail 7·5, long tail-feathers 11·3, tarsus 1·05.

Adult female. Similar to the male in colour. Total length 20·5 inches, culmen 1·75, wing 5·9, tail 8·5, long tail-feathers 12·6, tarsus 1·1.

Hab. Ecuador and Colombia.

a. Ad. sk.	Archidona, Quito, Ecuador.	Gould Coll. (Type of species.)
b. Ad. sk.	San José, Ecuador (*C. Buckley*).	Salvin-Godman Coll.

c. Ad. sk.	Medellin, U.S. Colombia (*T. K. Salmon*).	Salvin-Godman Coll.
d. Ad. sk.	Retiro (7000 ft.), Antioquia (*T. K. Salmon*).	Gould Coll.
e. ♂ ad.; *f*, *g.* ♀ ad. et imm. sk.	Envigado (5000 ft.), Antioquia (*T. K. Salmon*).	Salvin-Godman Coll.
h, *i.* ♂ ♀ ad. sk.	Envigado (*T. K. Salmon*).	Sclater Coll.
k, *l*, *m.* Ad. sk.	Soledad, Magdalena Valley, Colombia, 8000 feet (*T. H. Wheeler*).	Salvin-Godman Coll.

7. Momotus lessoni.

Momotus lessoni, *Less. Rev. Zool.* 1842, p. 174; *id. Descr. Mamm. et Ois.* p. 266 (1838); *Gray, Gen. B.* i. p. 68 (1847); *Des Murs, Iconogr. Orn.* pl. 62 (1848); *Scl. P. Z. S.* 1856, p. 139 (Chiriqui), p. 285 (Cordova); *id. P. Z. S.* 1857, p. 253 (Nicaragua); *Moore, P. Z. S.* 1859, p. 54 (Omoa); *Scl. t. c.* p. 387 (Oaxaca); *id. & Salv. Ibis*, 1859, p. 131 (Guatemala); *Salv. Ibis*, 1860, p. 100 (Dueñas); *Scl. Cat. Amer. B.* p. 262 (1862; Guatemala, Nicaragua); *Schl. Mus. Pays-Bas*, Momotus, p. 4 (1863); *Scl. & Salv. P. Z. S.* 1864, p. 362 (Panama); *Salv. P. Z. S.* 1867, p. 150 (Veragua); *Gray, Hand-l. B.* i. p. 80, no. 937 (1869); *Salvin, P. Z. S.* 1870, p. 201 (Veragua); *Scl. & Salv. t. c.* p. 387 (Honduras); *Salv. Ibis*, 1872, p. 321 (Nicaragua); *Scl. & Salv. Nomencl. Av. Neotr.* p. 102 (1873); *Boucard, P. Z. S.* 1878, p. 48 (S. José); *Nutting, Proc. U.S. Nat. Mus.* v. p. 399 (1882); *Ridgw. t. c.* p. 501; *Nutting, op. cit.* vi. p. 387 (1883); *Boucard, P. Z. S.* 1883, p. 453 (Yucatan); *Ridgw. Proc. U.S. Nat. Mus.* x. p. 582 (1887; Honduras).

Prionites momotus (*nec L.*), *Bp. P. Z. S.* 1847, p. 114.

Prionites psalurus, *Bp. C. R.* xxxviii. p. 659 (1854); *id. Notes Coll. Delatt.* p. 88; *id. Consp. Volucr. Anis.* p. 8 (1854).

Prionites lessoni, *Bp. Consp.* i. p. 165 (1850); *Cab. & Hein. Mus. Hein.* Th. ii. p. 113 (1860).

Adult male. Above olivaceous green, the wings more grass-green; the primary-coverts and outer aspect of the quills bluish green; tail-feathers green, becoming blue towards the ends, which have a black terminal band; on the centre of the crown a black patch, surrounded by a cincture of silvery blue, which inclines to torquoise-blue behind the nape, and shows a slight purplish shade at the end of a few of the feathers; base of forehead, lores, sides of face, and ear-coverts, as well as a broad eyebrow extending round the back of the nape, black; sides of neck olive-greenish, reaching to the posterior margin of the eye, and separated from the black of the ear-coverts by a streak of silvery torquoise-blue; below the black cheeks another narrow line of torquoise-blue, separating the fore part of the cheeks from the throat; on the fore neck a tuft of black feathers edged with greenish blue; under surface of body olive-brown, inclining to green on the abdomen, thighs, and under tail-coverts, and to emerald-green on the throat; under wing-coverts like the breast. Total length 15·3 inches, culmen 1·65, wing 5·35, tail 6·2, long tail-feathers 8·6, tarsus 1·1.

Adult female. Not differing from the male in colour. Total length 15·8 inches, culmen 1·65, wing 5·5, tail 6·3, tarsus 1.

Hab. Central America, from Mexico to Veragua.

a. Ad. sk.	Mexico.	Sclater Coll.
b. ♂ ad. sk.	Orizaba, Mexico.	Salvin-Godman Coll.
c, d. ♂ ad.; *e*. ♀ ad. sk.	Cuichapa, Canton de Cordova, March (*F. Ferrari-Perez*).	Salvin-Godman Coll.
f. ♂ ad. sk.	Vera Cruz, Feb. (*W. B. Richardson*).	Salvin-Godman Coll.
g, h. ♀ ad. sk.	Playa Vicente, Vera Cruz, Dec. (*M. Trujillo*).	Salvin-Godman Coll.
i–m. Ad. sk.	Teapa, Feb., March (*Mrs. H. H. Smith*).	Salvin-Godman Coll.
n, o. ♂ ad.; *p*. ♀ ad. sk.	Chimalapa, Tehuantepec, March (*W. B. Richardson*).	Salvin-Godman Coll.
q–s. Ad. sk.	Northern Yucatan, Jan. (*G. F. Gaumer & E. C. I. Devis*).	Salvin-Godman Coll.
t, u. Ad. sk.	Temax, Yucatan (*G. F. Gaumer*).	Sclater Coll.
v. Ad. sk.	Buctzotz, Yucatan, April (*G. F. Gaumer*).	Salvin-Godman Coll.
w, x. Ad. sk.	Peto, Yucatan, April (*G. F. Gaumer*).	Salvin-Godman Coll.
y. Ad. sk.	Belize, British Honduras (*F. Blancaneaux*).	Salvin-Godman Coll.
z–c'. ♀ ad. sk.	Cayo, W. District, British Honduras, May, June (*F. Blancaneaux*).	Salvin-Godman Coll.
d'. ♂ ad. sk.	San Felipe, W. District, British Honduras, May (*F. B.*).	Salvin-Godman Coll.
e'. Juv. st.	Guatemala.	Purchased.
f'. Ad. sk.	Guatemala.	Sclater Coll.
g', h'. Ad. sk.	Guatemala.	Gould Coll.
i'. Ad. sk.	Guatemala.	Purchased.
k', l'. ♂ ♀ ad. sk.	Pie de la Cuesta, San Marcos, Guatemala, Feb., June (*W. B. Richardson*).	Salvin-Godman Coll.
m', n'. ♂ ad. sk.	Retalhuleu, July (*W. B. Richardson*).	Salvin-Godman Coll.
o', p'. Ad. sk.	Retalhuleu (*O. S.*).	Salvin-Godman Coll.
q'. Ad. sk.	Savana Grande (*O. S.*).	Salvin-Godman Coll.
r'. ♂ ad. sk.	Alotenango (*O. S.*).	Salvin-Godman Coll.
s'. Ad. sk.	Dueñas (*O. S.*).	Salvin-Godman Coll.
t'. Ad. sk.	Lanquin, Vera Paz (*O. S.*).	Salvin-Godman Coll.
u'. ♂ ad. sk.	Vera Paz (*O. S.*).	Tweeddale Coll.
v'–x'. Ad. sk.	Choctum, Jan. (*O. S.*).	Salvin-Godman Coll.
y', z'. Ad. sk.	Chisec (*O. S.*).	Salvin-Godman Coll.
a''. ♂ ad. sk.	Toleman, Guatemala, Dec. (*W. B. Richardson*).	Salvin-Godman Coll.
b'', c''. ♂ ad. sk.	S. Miguel, S. Salvador, March, April (*W. B. R.*).	Salvin-Godman Coll.
d''. Ad. sk.	San Pedro, Honduras (*G. M. Whitely*).	Gould Coll.
e''. Ad. sk.	Chontales, Nicarugua (*F. Belt*).	Salvin-Godman Coll.
f''–h''. ♂; *i''*. ♀ ad. sk.	Chinandega, Nicaragua, April, May (*W. B. Richardson*).	Salvin-Godman Coll.
k''. Ad. sk.	Dota, Costa Rica, July 28 (*J. Carmiol*).	Salvin-Godman Coll.
l''. Ad. sk.	Volcan de Chiriqui (*E. Arcé*).	Salvin-Godman Coll.
m''. Ad. sk.	Bugaba, Chiriqui (*E. Arcé*).	Salvin-Godman Coll.
n''. Ad. sk.	Chitra, Veragua (*E. Arcé*).	Salvin-Godman Coll.

o''. Imm. sk.	Cordillera de Tole, Panama (*E. Arcé*).	Salvin-Godman Coll.
p'', *q''*. Ad. sk.	Veragua (*E. Arcé*).	Sclater Coll.
r''. Ad. sk.	Calovevora, Panama (*E. Arcé*).	Salvin-Godman Coll.

Intermediate specimens between M. lessoni *and* M. cærulciceps.

a, *b*. ♂ ♀ ad. sk.	Cuiclapa, Cordova, Mexico, March (*F. Ferrari-Perez*).	Salvin-Godman Coll.
c. ♀ imm.; *d*, *e*. Ad. sk.	Atoyac, Vera Cruz, May (*Mrs. H. H. Smith*).	Salvin-Godman Coll.
f. Ad. sk.	Vera Cruz (*W. B. Richardson*).	Salvin-Godman Coll.
g. Ad. sk.	Playa Vicente, Vera Cruz, Dec. (*M. Trujillo*).	Salvin-Godman Coll.
h. Ad. sk.	Playa Vicente, Dec. (*A. Boucard*).	Salvin-Godman Coll.

8. **Momotus swainsoni.**

Prionites bahamensis, *Swains. An. in Menag.* p. 332 (c. 1837); *Jard. & Selby, Ill. Orn.* iv. pl. 45; *Bp. Consp.* i. p. 165 (1850); *Cab. & Hein. Mus. Hein.* Th. ii. p. 113 (1860); *Schl. Mus. Pays-Bas*, Momotus, p. 3 (1863).

Momotus bahamensis, *Gray, Gen. B.* i. p. 68 (1847); *Scl. P. Z. S.* 1857, p. 252 (Tobago); *Gray, Hand-l. B.* i. p. 79, no. 932 (1869).

Momotus swainsoni (nom. emend.), *Scl. Cat. Amer. B.* p. 265 (1862); *id. & Salv. Nomencl. Av. Neotr.* p. 102 (1873).

Prionites swainsoni, *Finsch, P. Z. S.* 1870, p. 558 (Trinidad).

Adult. General colour above grass-green, with a slight bluish shade; wing-coverts like the back; bastard-wing black shaded with blue; primary-coverts blue; quills blackish, externally blue, the secondaries green like the back; tail-feathers green, inclining to blue towards the ends, which are blackish; shafts of tail-feathers black, the two centre feathers with blue rackets, slightly shaded with green internally and black at the ends; centre of crown black, with a silvery-blue cincture on the forehead, extending in a broad band above the eye, where it gradually merges into purplish blue round the hinder crown, but between the purple and the black coronal patch is a distinct shade of the same silvery blue as the forehead; some of the purple feathers of the nuchal cincture tipped with black; nasal plumes, lores, sides of face, and ear-coverts black, produced into a narrow pointed tuft, above the hinder upper margin of which is a narrow silvery-blue line, and on the lower margin is a line of purplish blue, spangled with a little silvery cobalt; sides of neck and sides of upper breast greenish like the back; cheeks and under surface of body cinnamon-rufous, with a tuft of feathers on the fore neck black, margined with greenish cobalt; under wing-coverts, axillaries, and quill-lining pale cinnamon-rufous. Total length 14·5 inches, culmen 1·6, wing 5·1, tail 5·6, centre tail-feathers 8, tarsus 1.

Hab. Islands of Trinidad and Tobago.

a. Ad. st.	Trinidad.	Major Finch [P.].
b. Ad. sk.	Trinidad.	Gould Coll.
c. Ad. sk.	Trinidad.	Sclater Coll.
d, *e*. ♂ ♀ ad. sk.	Tobago.	Sclater Coll.

9. Momotus cæruleiceps.

Prionites cæruleiceps, *Gould, P. Z. S.* 1836, p. 18; *Bp. Consp.* i. p. 165; *Cab. & Heine, Mus. Hein.* Th. ii. p. 113 (1860).

Prionites cæruleocephalus, *Jard. & Selby, Ill. Orn.* iv. pl. 42 (c. 1839).

Momotus cæruleiceps, *Gray, Gen. B.* i. p. 68 (1847); *id. Cat. Fissir. Brit. Mus.* p. 30 (1848); *Scl. P. Z. S.* 1857, p. 253 (Vera Cruz), 1859, p. 367 (Jalapa); *Schl. Mus. Pays-Bas*, Momotus, p. 4 (1863); *Scl. P. Z. S.* 1864, p. 176 (City of Mexico); *id. Cat. Amer. B.* p. 262 (1862); *Gray, Hand-l. B.* i. p. 80, no. 936 (1869); *Scl. & Salv. Nomencl. Av. Neotr.* p. 102 (1873); *Ridgw. Proc. U. S. Nat. Mus.* iii. p. 190 (1880); *Ferrari-Perez, op. cit.* ix. p. 160 (1886).

Momotus subhuta, *Less. Descr. Mamm. et Ois.* p. 265 (1838).

Adult male. General colour above warm olive greenish, rather more green on the rump, upper tail-coverts, and wings, the outer aspect of the quills greenish blue; tail-feathers green, becoming blue towards the ends, which are blackish at the tips; crown of head greenish blue, with a cincture of slightly brighter blue on the crown, followed by a narrow line of black, not complete on the nape; base of forehead and lores black, separated from the blue of the forehead by a band of yellowish olive anteriorly shaded with blue; sides of face and ear-coverts black, with a posterior narrow line of silvery blue along the hinder margin of the latter, separating the ear-coverts from the hind neck; along the upper edge of the fore part of the cheeks a line of greenish blue, separating them from the ear-coverts; cheeks and under surface of body green, with an olivaceous shade over the fore neck and chest, as well as the sides of the neck; on the fore neck an elongated tuft of black feathers, edged with green near the base; under wing-coverts ochreous buff, the edge of the wing green. Total length 15·5 inches, culmen 1·55, wing 5·6, tail 6, long tail-feathers 8·5, tarsus 1·1.

Hab. Eastern Mexico.

a. Ad. sk.	Mexico.	Gould Coll. (? Type of species.)
b. Ad. sk.	Mexico.	Sclater Coll.
c, d. ♂ ♀ ad. sk.	Villa Grande, Nuevo Leon, Mexico, May 23 (*F. B. Armstrong*).	Salvin-Godman Coll.
e. ♂ ad. sk.	Hacienda de la Cruz, N. Leon, June 4 (*F. B. A.*)	Salvin-Godman Coll.
f–i. ♂ ad. sk.	Rio Camarcho, N. Leon, June (*F. B. A.*).	Salvin-Godman Coll.
k, l. ♂ ad.; *m.* ♀ ad. sk.	Sierra Madre, above Ciudad Victoria, Tamaulipas, Apr. (*W. B. Richardson*).	Salvin-Godman Coll.
n. ♂ ad. sk.	Xicotencal, Tamaulipas, May (*W. B. R.*).	Salvin-Godman Coll.
o–q. ♂ ad.; *r–t.* ♀ ad. sk.	Tampico, Feb. (*W. B. R.*).	Salvin-Godman Coll.
u. ♂ juv. sk.	Tampico, June (*W. B. R.*).	Salvin-Godman Coll.

v, *w*. ♂ ♀ ad. sk.	Valles, San Luis Potosi, May (*W. B. R.*).	Salvin-Godman Coll.
x. ♂ ad. sk.	Misantla, March (*F. D. G.*).	Salvin-Godman Coll.
y, *z*. ♂ ad. sk.	Colipa, March (*F. D. G.*).	Salvin-Godman Coll.
a'. ♂ ad. sk.	Cuesta de Misantla, June (*M. Trujillo*).	Salvin-Godman Coll.
b'. ♂ ad. sk.	Plan del Rio, Jalapa, July (*Ferrari-Perez*).	Salvin-Godman Coll.
c'. Ad. sk.	Jalapa (*de Oca*).	Salvin-Godman Coll.
d'. ♀ ad. sk.	Cuichapa, Cordova, March (*Ferrari-Perez*).	Salvin-Godman Coll.

10. **Momotus mexicanus.**

Momotus mexicanus, *Swains. Phil. Mag.* i. p. 442 (1827); *Gray, Gen. B.* i. p. 68 (1847); *id. Cat. Fissir. Brit. Mus.* p. 40 (1848); *Scl. P. Z. S.* 1857, p. 253, 1859, p. 387, 1860, p. 252 (Orizaba); *id. Cat. Amer. B.* p. 262 (1862); *Schl. Mus. Pays-Bas*, Momotus, p. 6 (1863); *Sumichr. Mem. Bost. Soc. Nat. Hist.* i. p. 560 (1869); *Gray, Hand-l. B.* i. p. 80, no. 938 (1869); *Scl. & Salv. Nomencl. Av. Neotr.* p. 102 (1873); *Lawr. Mem. Bost. Soc. N. H.* ii. p. 289 (1874); *Salv. P. Z. S.* 1883, p. 426 (Acapulco); *Ferrari-Perez, Proc. U. S. Nat. Mus.* ix. p. 160 (1886).

Momotus martii (*nec Spix*), *Jard. & Selby, Ill. Orn.* i. pl. 23.

Prionites martii (*nec Spix*), *Swains. Zool. Ill.* (2) ii. pl. 81 (1831–32).

Prionites mexicanus, *Swains. Classif. B.* ii. p. 338 (1837); *Bp. Consp.* i. p. 165 (1850).

Crybelus mexicanus, *Cab. & Heine, Mus. Hein.* Th. ii. p. 112 (1859).

Adult male. General colour above light grass-green; wings like the back, but the primaries washed externally with blue; tail-feathers greenish blue, the two centre ones tipped with black; crown of head and neck cinnamon, shading off into ochraceous on the mantle; lores, feathers round the eye, and a longitudinal tuft along the ear-coverts black, with a narrow streak of blue above the hind margin of the black band, and another patch of blue below the anterior portion of it; remainder of the cheeks and under surface of body light emerald-green, with a tuft of black feathers on the fore neck, edged with blue; lower flanks, under wing- and tail-coverts pale sandy buff, the edge of the wing green. Total length 11·5 inches, culmen 1·5, wing 4·3, tail 4·3, centre tail-feathers 5·8, tarsus 1·05.

Adult female. Similar to the male in colour. Total length 12 inches, culmen 1·5, wing 4·5, tail 5, centre tail-feathers 6·4, tarsus 0·95.

Hab. Mexico.

a. Ad. sk.	Mexico.	Sclater Coll.
b. Ad. sk.	Mexico.	Salvin-Godman Coll.
c. ♀ ad. sk.	Mazatlan, W. Mexico (*I. Grayson*).	Salvin-Godman Coll.
d, *e*. ♂ ♀ ad. sk.	Presidio de Mazatlan, Dec., Feb (*A. Forrer*).	Salvin-Godman Coll.
f, *g*, *h*. ♂ ad.; *i*. ♀ ad. sk.	Bolaños, Jalisco, Feb. (*W. B. Richardson*).	Salvin-Godman Coll.

k, *l*. ♂ ad. sk.	Santiago, Terr. of Tepic, May (*W. B. Richardson*).	Salvin-Godman Coll.
m–*o*. ♂ ad.; *p*. ♀ ad. sk.	San Blas, Terr. of Tepic, April, May (*W. B. Richardson*).	Salvin-Godman Coll.
q. ♀ ad. sk.	Plains of Colima, Jan. (*W. B. Richardson*).	Salvin-Godman Coll.
r. ♂ ad. sk.	Colima, June (*W. Lloyd*).	Salvin-Godman Coll.
s. ♀ ad. sk.	Beltran, Jalisco, April 27 (*W. Lloyd*).	Salvin-Godman Coll.
t. ♂ ad.; *u*, *v*. ♀ ad. sk.	Tonila, Jalisco, June (*W. Lloyd*).	Salvin-Godman Coll.
w. ♀ ad. sk.	Chietla, Canton de Chiantla, Dec. 1 (*Ferrari-Perez*).	Salvin-Godman Coll.
x, *y*. Ad. et imm. sk.	Near the City of Mexico.	Salvin-Godman Coll.
z. ♂ ad. sk.	Rio Grande, Oaxaca (*A. Sallé*).	Gould Coll.
a'. ♂ ad.; *b'*–*d'*. ♀ ad. sk.	Sola, Oaxaca, April (*M. Trujillo*).	Salvin-Godman Coll.
e'. ♂ ad. sk.	Amula (6000 ft.), State of Guerrero, Aug. (*D. W. Smith*).	Salvin-Godman Coll.
f'. Ad. sk.	Rincon (2800 ft.), State of Guerrero, Oct. (*D. W. Smith*).	Salvin-Godman Coll.
g', *h'*. Ad. sk.	Chilpancingo (4600 ft.), Guerrero, Aug. (*D. W. Smith*).	Salvin-Godman Coll.
i'. Ad. sk.	Acapulco, March (*A. H. Markham*).	Salvin-Godman Coll.
k', *l'*. ♂ ♀ ad. sk.	Tehuantepec, Feb. (*W. B. Richardson*).	Salvin-Godman Coll.
m'. ♂ ad.; *n'*, *o'*. ♀ ad. sk.	Tonala, Chiapas, Feb. (*F. Sumichrast*).	Salvin-Godman Coll.

11. **Momotus castaneiceps.**

Momotus castaneiceps, *Gould, P. Z. S.* 1854, p. 154 (Guatemala); *Scl. P. Z. S.* 1857, p. 254; *Salvin, Ibis*, 1861, p. 354 (Guatemala); *Gray, Hand-l. B.* i. p. 80, no. 940 (1869); *Scl. & Salv. Nomencl. Av. Neotr.* p. 102 (1873).

Crybelus castaneiceps, *Cab. & Hein. Mus. Hein.* Th. ii. p. 112, note (1859).

Adult. General colour above grass-green, the wing-coverts like the back; bastard-wing, primary-coverts, and quills blue, the latter dusky on the inner web; inner secondaries washed with green like the back; upper tail-coverts and tail blue, the feathers black along their inner webs and having black shafts, the centre ones with a blue racket, the terminal half of which is black; crown of head chestnut, the mantle with a shade of cinnamon or orange-chestnut, which occupies also the hind neck and sides of neck; lores, feathers over the eye, and sides of face black, produced backwards into an elongated tuft, which has an upper border of purplish cobalt; cheeks and under surface of body emerald-green, inclining to verditer, becoming paler on the abdomen, which is white with a fulvous

tinge; thighs green; under tail-coverts buff; under wing-coverts and quill-lining pale tawny buff. Total length 14·7 inches, culmen 1·65, wing 5·1, tail 5·5, centre tail-feathers 7·5, tarsus 1·15.

Hab. Guatemala.

a. Ad. sk.	Guatemala.	Gould Coll. (Type of species.)
b. Ad. sk.	Guatemala.	Purchased.
c. Ad. sk.	Rio Motagua, Guatemala (*O. S.*).	Salvin-Godman Coll.

5. BARYPHTHENGUS.

Type.

Baryphonus, pt., *Vieill. N. Dict. d'Hist. Nat.* xxi. p. 314 (1818).

Baryphthengus, *Cab. & Heine, Mus. Hein.* Th. ii. p. 114 (1860) ..... B. ruficapillus.

Range. Confined to Brazil.

1. Baryphthengus ruficapillus *.

Tutu, *Azara, Apunt.* i. p. 243 (1802); *Hartl. Ind. Azara*, p. 4 (1847).

Baryphonus ruficapillus, *Vieill. Gal. Ois.* ii. p. 319, pl. 190 (1825).

Le Motmot Oranroux, *Levaill. Hist. Nat. Promer.* iii. *Suppl.* p. 41, pl. B (1806).

Prionites ruficapillus, *Licht. Verz. Doubl.* p. 21 (1823); *Neuwied, Beitr. Naturg. Bras.* iii. p. 1257 (1831); *Bp. Consp.* i. p. 165 (1850); *Tschudi, Faun. Peruan.* p. 251 (1855).

Prionites tutu, *Ranz. Elem. Zool.* iii. p. 157 (1822).

Prionites rubricapillus, *Steph. in Shaw's Gen. Zool.* xiv. p. 84 (1826).

Momotus levaillanti, *Less. Descr. Mamm. et Ois.* p. 265 (1838).

Prionites levaillanti, *Bp. Consp.* i. p. 165 (1850).

Momotus cyanogaster, *Scl. P. Z. S.* 1857, p. 255 (Paraguay); *Gray, Hand-l. B.* i. p. 80, no. 941 (1869).

Baryphthengus ruficapillus, *Cab. & Heine, Mus. Hein.* Th. ii. p. 114 (1860); *Scl. Cat. Amer. B.* p. 262 (1862); *Scl. & Salv. Nomencl. Av. Neotr.* p. 102 (1873).

Momotus ruficapillus, *Gray, Gen. B.* i. p. 68 (1844); *Schl. Mus. Pays-Bas*, Momotus, p. 5 (1863); *Gray, Hand-l. B.* i. p. 80, no. 943 (1869).

? Momotus melancholicus, *Gray, Hand-l. B.* i. p. 80, no. 942 (1869).

Adult. General colour above grass-green, inclining to olive on the mantle and back; wings green, the primary-coverts and primaries externally blue; tail-feathers green, inclining to blue at their ends; crown of head and nape bright cinnamon-rufous, a slight shade of which colour spreads on to the hind neck; lores,

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* The following species has been referred by many authors to *B. ruficapillus*, but it seems to me impossible to identify it with certainty:—

Le Motmot dombé, *Levaill. Ois. Parad. et Rolliers*, i. p. 113, pl. 39 (1806); *Scl. P. Z. S.* 1857, p. 258.

Baryphonus ruficapillus, *Vieill. N. Dict. d'Hist. Nat.* xxi. p. 315 (1818).

Prionites dombeyanus, *Ranz. Elem. Zool.* iii. pt. 3, p. 158.

Momotus dombeyi, *Less. Man. d'Orn.* ii. p. 103 (1828).

Prionites dombeyi, *Swains. Classif. B.* ii. p. 338 (1837).

feathers over the eye, side of face, and ear-coverts black, with a slight tinge of greenish blue behind the eye and below the ear-coverts; cheeks, throat, and upper breast olive, with a tuft of elongated black feathers, edged with green; lower breast cinnamon-rufous, forming a broad band; abdomen green, bluish in the centre and on the under tail-coverts; under wing-coverts light green: "bill black; feet pale greyish brown; iris dark reddish brown" (*Neuwied*). Total length 17·4 inches, culmen 1·8, wing 5·75, tail 9·2, tarsus 1·2.

Hab. Brazil.

a. Ad. sk.	Brazil.	Salvin-Godman Coll.
b, *c*. Ad. sk.	Para.	Gould Coll.
d. ♂ ad. sk.	Lagos dos Patos, Rio Grande do Sul, Brazil (*H. Rogers*).	Salvin-Godman Coll.
e. Ad. sk.	Bahia (*Dr. Luschnath*).	Salvin-Godman Coll.
f. Ad. sk.	South Brazil.	Sclater Coll.

6. ASPATHA, g. n.

Range. Confined to Guatemala.

1. Aspatha gularis.

Prionites gularis, *Lafr. Rev. Zool.* 1840, p. 130.

Momotus gularis, *Gray, Gen. B.* i. p. 68 (1847); *Schl. Mus. Pays-Bas*, Momotus, p. 7 (1863); *Gray, Hand-l. B.* i. p. 81, no. 848 (1869).

Hylomanes gularis, *Scl. P. Z. S.* 1857, p. 256; *id. & Salv. Ibis*, 1859, p. 131; *iid. Nomencl. Av. Neotr.* p. 102 (1873).

Adult male. General colour above grass-green, a little more olivaceous on the head and neck; wings like the back, the quills dusky, externally grass-green, the primaries a little bluish; tail-feathers green, inclining to blue at the ends, with blackish shafts; lores, feathers around and below the eye orange-buff; ear-coverts marked by a broad band of black; cheeks and sides of neck light green, the fore part of the cheeks with an orange tinge; throat light cobalt-blue, with a longitudinal tuft of black feathers on the fore neck; breast olivaceous yellow, shading off into green on the sides of the body, and into light blue on the abdomen; thighs greenish; under tail-coverts ochreous buff, as also the under wing-coverts and quill-lining. Total length 10·8 inches, culmen 1·3, wing 4, tail 5·4, tarsus 1.

Adult female. Similar to the male. Total length 10·5 inches, culmen 1·2, wing 3·9, tail 5·3, tarsus 0·9.

Hab. Guatemala.

a-*d*. ♂ ad. sk.	Santa Maria, near Quezaltenango, Guatemala, Aug. (*W. B. Richardson*).	Salvin-Godman Coll.
e. ♂ ad. sk.	Barranco-Hondo, Guatemala, Oct. 29 (*O. S.*).	Sclater Coll.
f. Ad sk.	Dueñas (*O. S.*).	Sclater Coll.
g-*k*. Ad. sk.	Volcan de Fuego, Nov. (*O. S.*).	Salvin-Godman Coll.
l. Ad. sk.	Guatemala.	Gould Coll.

7. HYLOMANES.

Type.

Hylomanes, *Licht. Abhandl. Akad. Wissensch. Berol.* 1838, p. 449, pl. 4 ..... H. momotula.

Range. Central America, from Mexico to Guatemala.

1. Hylomanes momotula.

Hylomanes momotula, *Licht. Abhandl. Akad. Wissensch. Berol.* 1838, p. 449, pl. 4; *Bp. Consp.* i. p. 164 (1850); *Scl. P. Z. S.* 1857, p. 256 (Jalapa); *Moore, P. Z. S.* 1859, p. 54 (Omoa); *Scl. & Salv. Ibis*, 1860, p. 400 (Guatemala); *Scl. Cat. Amer. B.* p. 263 (1862); *id. & Salv. Nomencl. Av. Neotr.* p. 102 (1873).

Momotus momotula, *Gray & Mitch. Gen. B.* i. p. 68, pl. 24 (1847); *Gray, List Fissir. Brit. Mus.* p. 40 (1848); *Schl. Mus. Pays-Bas*, Momotus, p. 7 (1863); *Gray, Hand-l. B.* i. p. 81, no. 947 (1869).

Adult male. General colour above deep grass-green; wings like the back, the primaries externally washed with ochreous buff; tail green, brownish towards the ends; hinder crown and neck pale cinnamon, the forehead washed with green; over the eye a streak of bright blue; lores and feathers behind the eye ochreous buff; eyelid and ear-coverts black; cheeks dull green, separated from the black ear-coverts by a whitish line; throat creamy white, slightly washed with olive in the centre; lower throat, fore neck, and chest olive, washed with brighter green, the breast washed with bluish green; abdomen and under tail-coverts creamy white; flanks ochreous buff, washed with green; under wing-coverts and axillaries tawny buff; quills dusky below, chestnut along the inner web. Total length 6·5 inches, culmen 1·05, wing 2·8, tail 2·55, tarsus 0·75.

Hab. The same as that of the genus.

a. Ad. sk.	Mexico.	Sclater Coll.
b. Ad. sk.	Playa Vicente, Vera Cruz, Dec. (*M. Trujillo*).	Salvin-Godman Coll.
c, d. Ad. sk.	Cayo, Western District, British Honduras, Oct., Jan. (*Blancaneaux*).	Salvin-Godman Coll.
e–g. Ad. sk.	Guatemala.	Gould Coll.
h, i. Ad. sk.	Guatemala.	Salvin-Godman Coll.
k. Ad. sk.	Guatemala (*Van Patten*).	Sclater Coll.
l, m, n. Ad. sk.	Choctum, Vera Paz (*O. S.*).	Salvin-Godman Coll.
o, p. Ad. sk.	Sources of the Rio de la Pasion, Vera Paz, Feb. (*O. S.*).	Salvin-Godman Coll.
q. Ad. sk.	Vera Paz (*O. S.*).	Tweeddale Coll.
r. ♂ ad. sk.	Volcan de Agua, above S. Diego, Nov. 4 (*O. S.*).	Sclater Coll.
s. ♂ ad. sk.	Volcan de Fuego, La Trinidad, Oct. 28 (*O. S.*).	Salvin-Godman Coll.
t. Ad. sk.	Savana Grande, Guatemala (*O. S.*).	Salvin-Godman Coll.

Family TODIDÆ.

(By R. B. SHARPE.)

Palate desmognathous: basipterygoid processes absent.

Sternum with four notches on the posterior margin, open, and not converted into foramina as in the *Momoti*.

Cæca large.

Ambiens muscle absent.

No carotid arteries present.

Spinal feather-tract well defined on neck, and not forked on the back.

Oil-gland with well-developed tufts.

Bill long, flattened, but not serrated.

Tail-feathers 12.

Feet anisodactyle.

Nest none, a hole being tunnelled by the birds themselves.

Eggs four, white.

Range. Confined to the Greater Antilles.

1. TODUS.

	Type.
Todus, *Linn. Syst. Nat.* i. p. 178 (1766)	T. viridis.

Cf. *Murie, Ibis*, 1872, pp. 644–680; *Sharpe, Ibis*, 1874, pp. 349–355; *Cory, B. West Indies*, pp. 164–167.

Range. Confined to the Greater Antilles.

Key to the Species.

a. With a tuft of pink on the flanks.
  a'. Chest uniform, not ocellated with oval spots of white.
    a''. Moustache ending in an ashy-grey spot.
      a'''. Breast white, tinged with green; flanks green, with a tuft of pink .. *viridis*, p. 334.
      b'''. Breast pure white; flanks entirely pink, with no green ..... *subulatus* [♀], p. 334.
    b''. Moustache ending in a bright verditer spot; breast white, very slightly tinged with pink here and there .... *multicolor*, p. 335.
  b'. Chest pinkish, ocellated with distinct oval spots of white.
    c''. Above bluish green; moustache and edge of wing light pink ..... *pulcherrimus*, p. 336.
    d''. Above bright grass-green; moustache and edge of wing whitish ..... *subulatus* [♂], p. 334.
b. Flanks yellow, with no pink tuft; chest ashy grey ..... *hypochondriacus*, p. 336.

1. Todus viridis.

Todus viridis, *Linn. S. N.* i. p. 178 (1766); *Less. Traité*, p. 250 (1831); *Swains. Zool. Illustr.* 2nd ser. pl. 66 (1833); *id. Monogr. Flyc.* p. 173, vign. (1837); *Less. Ann. Sci. Nat.* ix. p. 166 (1838); *Gray, List Gen.* 1840, p. 9, 1841, p. 12; *Gosse, B. Jamaica*, p. 72, pl. 14 (1847); *Lafr. Rev. Zool.* 1847, p. 332; *Denny, P. Z. S.* 1847, p. 38; *Gray, Gen. B.* i. p. 63 (1847); *id. List Fissir. Brit. Mus.* p. 351 (1848); *Bp. Consp.* i. p. 182 (1850); *Scl. P. Z. S.* 1861, p. 77; *id. Cat. Amer. B.* p. 263 (1862); *Albrecht, J. f. O.* 1862, p. 199; *Gray, Hand-l. B.* i. p. 79, no. 925 (1869); *Murie, Ibis*, 1872, p. 390; *Sunder. Av. Meth. Tent.* p. 61 (1872); *Scl. & Salv. Nomencl. Av. Neotr.* p. 103 (1873); *Sharpe, Ibis*, 1874, p. 349; *A. & E. Newt. Handb. Jamaica*, p. 109 (1881); *Cory, List B. W. Ind.* p. 19 (1885); *id. B. W. Indies*, p. 164 (1889).

Adult. Entire upper surface bright grass-green, more vivid on the forehead, eyebrow, and sides of the face; quills blackish, margined with the same green as the back; tail greenish, duller than the back, but rather brighter on the margins of the quills; chin and a narrow moustachial streak white; throat crimson, inclining to greyish on the sides of the lower part; below the throat a small whitish space; rest of under surface whitish, washed with yellow, especially on the abdomen, flanks, and under tail-coverts; sides of breast green; on the lower flanks a tuft of pink feathers; under wing-coverts yellowish, inclining to white on the margin of the wing; "bill above horny red, below pale crimson; legs and feet reddish brown, sometimes flesh-coloured or purplish horn; iris very pale grey" (*Gosse*). Total length 3·7 inches, culmen 0·75, wing 1·85, tail 1·5, tarsus 0·55.

Female. "Sexes exactly alike" (*Gosse*).

Hab. Jamaica.

a, b. Ad. sk.	Jamaica.	J. Gould, Esq.
c, d. Ad. sk.	Jamaica.	Baron Laugier.
e. Ad. sk.	Jamaica.	Capt. Hamilton [P.].
f–i. Ad. sk.	Jamaica.	Sclater Coll.
k, l. Ad. sk.	Moneague, Jamaica, Feb.	Dr. H. Bryant [P.].
m–p. Ad. sk.	Moneague, Aug. (*O. S.*).	Salvin-Godman Coll.
q. Ad. sk.	Metcalfe Parish, Jamaica, May 28 (*G. N. Allen*).	Salvin-Godman Coll.

2. Todus subulatus.

Todier de S. Domingue, *Daubent. Pl. Enl.* viii. pl. 585. figs. 1, 2.

Todus viridis (*nec L.*), *Vieill. N. Dict.* xxxiv. p. 184, pl. 29. fig. 4 (1819); *Bonn. et Vieill. Enc. Méth.* i. p. 269 (1823).

Todus subulatus, *Gray, Gen. B.* i. p. 63, pl. 22 (1847); *Bp. Consp.* i. p. 182 (1850); *Gray, Hand-l. B.* i. p. 79, no. 929 (1869); *Sharpe, Ibis*, 1874, p. 351, pl. xiii. figs. 1, 2; *Tristr. Ibis*, 1884, p. 168; *Cory, B. Haiti & S. Domingo*, p. 105 (1885); *id. List B. W. Indies*, p. 19 (1885); *id. B. W. Indies*, p. 165 (1889).

Todus dominicensis, *Lafr. Rev. Zool.* 1847, p. 331; *Sallé, P. Z. S.* 1857, p. 233; *Cab. & Hein. Mus. Hein.* Th. ii. p. 49 (1860);

Bryant, Proc. Bost. Soc. N. H. xi. p. 91 (1866); *Scl. & Salv. Nomencl. Av. Neotr.* p. 103 (1873); *Cory, Bull. Nutt. Orn. Club*, vi. p. 154 (1881).

Todus angustirostris, *Lafr. Rev. Zool.* 1851, p. 478; *Gray, Hand-l. B.* i. p. 79, no. 928 (1869).

Adult male. Above deep grass-green, brighter on the head and sides of face; quills brownish black, margined with the same green as the back, rather brighter on the secondaries; tail green, rather duller than the back; chin and a moustachial streak whitish, the latter shading off into ashy grey; throat pale carmine, the feathers bordered with silvery white; rest of under surface white, tinged with light yellow, very bright on the under tail-coverts; the breast white, with a narrow pink edging, causing an ocellated appearance; flanks and sides of body beautiful pink; thigh-feathers yellowish; under wing-coverts light yellow, inclining to white on the outer margins. Total length 4·4 inches, culmen 0·8, wing 1·95, tail 1·65, tarsus 0·55.

The *female* apparently differs in the colouring of the under surface, which is white, tinged with yellow on the centre of the abdomen and under tail-coverts. The throat is pale carmine-pink, very thickly clouded with white margins to the feathers, and the pink on the flanks is not nearly so much developed as in the male.

Young. Some young birds examined by Dr. Bryant (*l. c.*) appeared to want the brilliant colours of the adult.

Hab. Haiti and San Domingo.

a, *b*, *c*. Ad. st.	S. Domingo.	Purchased.
d. Ad. sk.	S. Domingo.	Salvin-Godman Coll.
e. Ad. sk.	S. Domingo (*Sallé*).	Sclater Coll.
f, *g*, *h*. ♂ ad. et imm.; *i*, *k*. ♀ ad. sk.	Puerto Plato, S. Domingo, Nov., Dec., Feb., May (*C. B. Cory*).	Salvin-Godman Coll.
l, *m*. Ad. sk.	Haiti.	Baron Maltzan [C.].

3. Todus multicolor.

Todus multicolor, *Gould, Icon. Av.* pl. ii. (1837); *D'Orb. in Ramon de la Sagra's Hist. Nat. Cuba, Ois.* p. 132, pl. 22 (1839); *Gray, List Fissir. Brit. Mus.* p. 36 (1848); *Bp. Consp.* i. p. 182 (1850); *Gundl. J. f. O.* 1856, p. 101, 1859, p. 347, 1861, pp. 334, 414, 1862, p. 189; *Gray, Hand-l. B.* i. p. 79, no. 927 (1869); *Gundl. J. f. O.* 1871, p. 288; *Scl. & Salv. Nomencl. Av. Neotr.* p. 103 (1873); *Sharpe, Ibis*, 1874, p. 352; *Cory, List B. W. Ind.* p. 19 (1885); *id. B. W. Indies*, p. 167 (1889).

Todus portoricensis, *Less. Ann. Sci. Nat.* xi. p. 167 (1838); *Lafr. Rev. Zool.* 1847, p. 332; *Gray, Gen. B.* i. p. 63 (1847); *Lembeye, Av. Cuba*, p. 131 (1850); *Brewer, Proc. Bost. Soc. N. H.* vii. p. 307 (1860).

Adult. Above grass-green, the forehead and lores yellowish, the eyebrow and sides of face brighter green than the back; quills dusky brown, margined with the same green as the back, rather brighter on the secondaries; the outer wing-coverts with a slight

tinge of blue; tail dull green; a broad moustache pure white, shading off into verditer-blue and forming a distinct spot; throat carmine, with very slight margins of silvery white to some of the feathers; rest of under surface white; margins of some of the breast-feathers slightly washed with pink; the flanks pink; sides of upper breast greyish; under tail- and wing-coverts yellowish, the outermost of the latter white, those on the bend of the wing slightly washed with blue: bill and feet coral-red, the upper mandible brown; iris greyish blue; upper eyelid orange. Total length 3·6 inches, culmen 0·75, wing 1·7, tail 1·3, tarsus 0·55.

Hab. Cuba.

a. Ad. sk.	Cuba.	Baron Laugier.
b, *c*. Ad. sk.	Cuba.	Salvin-Godman Coll.
d. Ad. sk.	Cuba.	Sclater Coll.
e, *f*. Ad. sk.	San Cristoval, Cuba (*G. F. Gaumer*).	Salvin-Godman Coll.

4. Todus pulcherrimus.

Todus pulcherrimus, *Sharpe*, *Ibis*, 1874, p. 353, pl. 13. fig. 3; *Cory*, *List B. W. Ind.* p. 19 (1885); *id. B. West Ind.* p. 166 (1889).

Adult. Above bluish green, rather tinged with olive on the lower back, the wing-coverts showing a very strongly pronounced blue shade; quills blackish, bordered narrowly with light green, shading off into bluish towards the tips of the secondaries; tail dull greenish, with narrow margins of bluish green; forehead lighter and rather more olive-green than the back, and tinged with orange near the base of the beak; lores tinged with orange; sides of face yellowish green; sides of neck dull rufous; chin white; throat bright carmine, with silvery-white margins to most of the feathers; rest of under surface with a light crimson blush, varied on the breast with white oval spots to the feathers, producing an ocellated appearance, the crimson colour brightest on the flanks, shading off into ochraceous buff on the sides of the vent; on each side of the upper breast a patch of greenish; under wing-coverts ochraceous buff, the outermost smaller coverts washed with pale carmine: upper mandible blackish, lower one yellowish; feet black. Total length 3·5 inches, culmen 0·85, wing 1·9, tail 1·4, tarsus 0·65.

Hab. [Jamaica.]

a. Ad. sk.	[Jamaica.]	Purchased. (Type of species.)

5. Todus hypochondriacus.

Todus viridis (*nec L.*), *Desm. Hist. Nat. Tang. etc.* pl. 67 (1805); *Vieill. Gal. Ois.* i. pl. 124 (1825).

Todus mexicanus, *Less. Ann. Sci. Nat. Zool.* ix. p. 167 (1838); *Lafr. Rev. Zool.* 1847, p. 333; *Gray*, *Gen. B.* i. p. 63 (1847); *id. List Fissir. Brit. Mus.* p. 36 (1848); *Bp. Consp.* i. p. 182 (1850); *Baird*, *Ibis*, 1867, p. 260; *Gray*, *Hand-l. B.* i. p. 79, no. 926 (1869).

Todus hypochondriacus, *Bryant, Proc. Bost. Soc. N. H.* xi. p. 39 (1866); *Sunder. Œfv. K. Vet.-Akad. Handl. Stockh.* iv. p. 598 (1869); *Scl. & Salv. Nomencl. Av. Neotr.* p. 103 (1873); *Sharpe, Ibis*, 1874, p. 354; *Gundl. Anales Soc. Esp. Hist. Nat.* vii. p. 219 (1878); *Cory, List B. W. Ind.* p. 19 (1885); *id. B. West Indies*, p. 166 (1889).

Adult. Above grass-green, brighter on sides of face and over the eye; forehead and lores tinged with yellow; quills blackish, margined with the green of the back, the secondaries almost entirely of the latter colour; tail green, rather duller than the back; chin white; throat very brilliant crimson, with slight silvery-white margins; below the throat a small line of white; moustachial streak white, shading off into ashy grey on the sides of the neck, which, like the chest, are entirely ashy grey; rest of under surface yellow, whitish in centre of breast; flanks and under tail-coverts entirely yellow; sides of upper breast greenish; under wing-coverts yellowish white, the outermost entirely white, with a small dusky patch near outer margin. Total length 3·7 inches, culmen 0·9, wing 1·85, tail 1·3, tarsus 0·55.

Hab. Porto Rico.

a. Ad. st.	Porto Rico.	Purchased.
b. Ad. sk.	Porto Rico.	Dr. Bryant [P.]
c, *d*. Ad. sk.	Porto Rico.	Sclater Coll.
e. ♂ ad. sk.	Porto Rico, Nov. 12 (*C. B. Cory*).	Salvin-Godman Coll.
f. Ad. sk.	Porto Rico (*Swift*).	Salvin-Godman Coll.

Family COLIIDÆ.

(By R. B. SHARPE.)

Palate desmognathous.

Basipterygoid processes absent.

Cæca none.

Ambiens muscle absent.

Left carotid only present.

Sternum with four notches on the posterior margin.

Feet pamprodactylous, all four toes being directed forwards, the first one probably reversible.

Hallux present, and connected with the *flexor perforans digitorum*; the two plantar tendons blended.

Tail-feathers ten.

Spinal feather-tract well defined on the neck and not forked on the back; no bare tracts on the breast.

Oil-gland tufted.

Nest cup-shaped, placed in a bush.

Eggs white.

Range. Confined to Africa.

1. COLIUS.

	Type.
Colius, *Briss. Orn.* iii. p. 304 (1760)	C. colius.
Rhabdocolius, *Bp. Consp. Vol. Anis.* p. 3 (1854)....	C. striatus.
Urocolius, *Bp. t. c.* p. 3 (1854)	C. macrurus.

Cf. *Shelley, Ibis*, 1885, pp. 307–314.

Range. Confined to Africa.

Key to the Species.

a. Mantle and back brown, generally vermiculated with dusky bars; tail brown or ashy brown; region of nostrils black.
  a'. Lower back brown, not chestnut.
    a''. Entire upper mandible black.
      a'''. Head ashy like the back ..... *striatus*, p. 339.
      b'''. Head white ..... *leucocephalus*, p. 340.
    b''. Upper mandible black, with a yellowish-white mark on the culmen.
      c'''. Ear-coverts like the crown..... *nigricollis*, p. 341.
      d'''. Ear-coverts white, contrasting with the crown.
        a^4. Hind neck and throat with distinct bars of dusky brown ..... *leucotis*, p. 341.
        b^4. Hind neck and throat very indistinctly barred with dusky brown ..... *affinis*, p. 342.
  b'. Lower back and rump maroon or chestnut . *castanonotus*, p. 342.

b. Mantle and back grey; centre of lower back white, with a broad band of black on each side; upper tail-coverts maroon; tail grey.. *colius*, p. 343.

c. Mantle and back ashy or lavender-brown; lower back and rump bluish ashy; tail greenish or bluish grey; nostrils yellow, included in the yellow base of the upper mandible.

c'. No blue on the sides of the nape..... *erythromelon*, p. 344.

d'. A large tuft of verditer-blue feathers on each side of the nape ..... *macrurus*, p. 345.

1. Colius striatus.

Le Coliou de l'isle Panay, *Sonn. Voy. Nouv. Guinée*, p. 116, pl. 74 (1776); *Buff. Hist. Nat. Ois.* iv. p. 406 (1778).

Le Coliou rayé, *Buff. Hist. Nat. Ois.* iv. p. 405 (1788).

Tanagra macrura (*nec L.*), *Scop. Del. Flor. et Faun. Insubr.* ii. p. 95 (1786).

Radiated Coly, *Lath. Gen. Syn.* ii. pt. i. p. 102 (1783, *ex Buff.*).

Panayan Coly, *Lath. t. c.* p. 103 (1783, *ex Sonn.*).

Colius striatus, *Gm. Syst. Nat.* i. p. 843 (1788); *Gray, Gen. B.* ii. p. 393 (1848); *Bp. Consp.* i. p. 86 (1850); *Cab. & Heine, Mus. Hein.* Th. ii. p. 96 (1859); *Gurney, Ibis*, 1860, p. 213 (Natal); *id. Ibis*, 1862, p. 157, 1864, p. 359; *Schl. Mus. Pays-Bas*, Cuculi, p. 80 (1864); *Gray, Hand-l. B.* ii. p. 124, no. 7844 (1870); *Pelz. Ibis*, 1873, p. 116; *Shelley, Ibis*, 1875, p. 81; *Sharpe, ed. Layard's B. S. Afr.* pp. 558, 853 (1875–84); *Barratt, Ibis*, 1876, p. 204; *Shelley, Ibis*, 1885, p. 311; *Reichen. J. f. O.* 1889, p. 272 (Quilimane).

Colius panayensis, *Gm. Syst. Nat.* i. p. 843 (1788).

Le Coliou rayé, *Levaill. Ois. d'Afr.* vi. p. 36, pl. 256 (1808); *Sundev. Krit. Framst. Levaill.* p. 53 (1858).

Rhabdocolius striatus, *Bp. Consp. Vol. Anis.* p. 3 (1854).

Colius minor, *Cab. J. f. O.* 1876, p. 94.

Colius striatus intermedius,
Colius striatus typicus,
Colius striatus minor, } *Shelley, Ibis*, 1885, p. 311.

Adult. General colour above brown, with more or less obsolete vermiculations; a few dusky brown cross lines appearing on the neck and mantle; the back, rump, upper tail-coverts, and wings dull ashy, the primaries externally brown near the base; centre tail-feathers ashy, with brown shafts; the remainder ashy externally with reddish-brown shafts, the inner webs also inclining to rufescent brown, the outer web externally edged with white; head, strongly crested, a little lighter ashy than the back; base of the forehead dusky reddish as well as the lores; sides of face and ear-coverts light ashy brown; throat and breast ashy brown, with tolerably distinct blackish cross lines; sides of the body like the breast, but gradually fading off into ochreous buff on the flanks; lower breast and abdomen ochreous buff, inclining to rufous on the under tail-coverts; the throat more or less blackish where the grey tips to the feathers get worn off, and the black bases show

through; under wing-coverts ochreous buff; the lower series and the quill-lining chestnut: "upper mandible black, the lower one light horn-colour; feet horn-colour" (*E. L. Layard*). Total length 14 inches, culmen 0·55, wing 3·8, tail 9·1, tarsus 0·8.

I cannot follow Captain Shelley in recognizing three races of *Colius striatus*. The rufous on the forehead is not peculiar to Cape Colony specimens only, but is found in Natal specimens also. I am under the impression that this dark forehead is the result of a stain, probably of fruit. Specimens from the Zambesi and Natal are rather smaller than the Cape Colony ones, but this is a well-known rule with South-African birds. The probability is, likewise, that the Cape Colony form (*C. intermedius* of Shelley) would be the original Coly met with by Sonnerat rather than the Natal form, and consequently would be the true *Colius striatus* of Scopoli.

Hab. South Africa, from the Cape Colony to Natal and as far as the Zambesi Region.

a, b. Ad. sk.	South Africa (*Layard*).	Sharpe Coll.
c. Ad. sk.	Cape Colony (*C. J. Andersson*).	Shelley Coll.
d. Ad. sk.	Cape Colony.	Salvin-Godman Coll.
e. Ad. sk.	Cape Colony.	J. Rocke, Esq. [P.].
f, g. Ad. sk.	Cape Colony.	Sir A. Smith [C.].
h, i. ♀ ad. et juv. sk.	Knysna, Dec. (*C. J. Andersson*).	Sharpe Coll.
k. ♂ ad. sk.	Kingwilliamstown, June 19.	Major Trevelyan [P.].
l. Ad. sk.	Natal (*F. Oates*).	W. E. & C. G. Oates, Esqrs. [P.].
m–o. Ad. sk.	Natal, July.	T. Ayres, Esq. [C.].
p–t. Ad. sk.	Durban, Natal, Feb., April.	Shelley Coll.
u. ♂ ad.; *v, w.* ♀ ad. sk.	Swaziland, July (*T. E. Buckley*).	Shelley Coll.
x. ♂ ad. sk.	Macamac, East Transvaal, Sept. 16.	F. A. Barratt, Esq. [P.].
y, z. Ad. sk.	River Shiré (*Sir J. Kirk*).	Livingstone Exped.
a'. Ad. sk.	Zambesi (*Dr. Meller*).	Tweeddale Coll.

2. Colius leucocephalus.

Colius leucocephalus, *Reichen. Orn. Centralbl.* 1879, p. 114 (Kinabomba); *Fischer & Reichen. J. f. O.* 1879, p. 341; *Fischer, J. f. O.* 1885, p. 123 (Wapokomoland; Little Aruscha); *Shelley, Ibis*, 1885, p. 312.

Adult. Crown and sides of head white; throat, sides of neck, hind neck, mantle, and least wing-coverts ashy whitish, finely banded across with dusky; throat blackish; lower back, wings, and tail ashy brown; abdomen vinaceous; vent and under tail-coverts buff: "bill plumbeous; feet rosy; orbits bare ashy grey" (*G. A. Fischer*). Total length 11 inches, wing 3·35, tail 8·4.

Hab. East Africa.

3. Colius nigricollis.

Le Coliou rayé à gorge noire, *Levaill. Ois. d'Afr.* vi. p. 45, pl. 259 (1808); *Sundev. Krit. Framst. Levaill.* p. 53 (1858).

Colius nigricollis, *Vieill. N. Dict. d'Hist. Nat.* vii. p. 378 (1817); *Gray, Gen. B.* ii. p. 393 (1848); *Bp. Consp.* i. p. 86 (1850); *Hartl. Orn. W.-Afr.* p. 155 (1857); *Gray, Hand-l. B.* i. p. 124, no. 7845 (1870); *Sharpe, P. Z. S.* 1873, p. 717 (Lower Congo); *Cab. J.f. O.* 1876, p. 95; *Reichen. J. f. O.* 1877, p. 15 (Loango); *Sharpe & Bouvier, Bull. Soc. Zool. France*, p. 50 (1876; Landana); *Bocage, Orn. Angola*, p. 129 (1877); *Sharpe, Journ. Linn. Soc.* xvii. p. 434 (1884); *Scl. P. Z. S.* 1884, p. 530, pl. 45. fig. 1; *Shelley, Ibis*, 1885, p. 310; *Shelley, Ibis*, 1889, p. 168; *Sharpe, App. to Jameson's 'Rear Column,'* p. 399 (1890).

Adult. Similar to *C. striatus*, but with a white mark on the base of the culmen; a black throat and black forehead and pale yellowish legs. Total length 12 inches, culmen 0·6, wing 3·8, tail 8, tarsus 0·85.

Hab. Congo Region, extending into the Niam-Niam country.

a, b.	Ad. sk.	River Congo.	Commander Sperling [P.].
c.	♀ ad. sk.	Landana, Congo.	Shelley Coll.
d.	Ad. sk.	Ndoruma, Niam-Niam, Oct.	F. Bohndorff [C.].

4. Colius leucotis. (Plate XII. fig. 1.)

Colius leucotis, *Rüpp. Mus. Senckenb.* iii. p. 42, pl. 2. fig. 1 (1845; Temben); *Gray, Gen. B.* ii. p. 393 (1848); *Bp. Consp.* i. p. 86 (1850); *Cab. & Hein. Mus. Hein.* Th. iii. p. 97 (1859); *Schl. Mus. P.-B.* Cuculi, p. 80 (1864); *Gray, Hand-l. B.* ii. p. 124, no. 7846 (1870); *Heugl. Orn. N.O.-Afr.* i. p. 710 (1870, pt.); *Finsch, Tr. Z. S.* vii. p. 276 (1870); *Blanf. Geol. & Zool. Abyss.* p. 316 (1870); *Finsch & Hartl. Vög. Ostafr.* p. 472 (1870); *Antin. & Salvad. Ann. Mus. Genov.* iv. p. 416 (1873); *Hartl. Abhandl. nat. Ver. Bremen*, vii. p. 110 (1881; Lado); *Salvad. Ann. Mus. Genov.* (2) i. p. 100 (1884; Shoa).

? Colius capensis, *DesMurs in Lefebvre's Voy. Abyss.* p. 123 (1845).

Rhabdocolius leucotis, *Bp. Consp. Vol. Anis.* p. 3 (1854).

Adult. Similar to *C. striatus*, but having the tip of the culmen with a white spot near the base, and distinguished by the hoary white ear-coverts and hinder cheeks; the hind neck and mantle broadly barred with dusky brown; maxilla black, the culmen pale bluish white; the mandile fleshy whitish, blackish at the base: "feet bright vermilion, the soles tinged with grey; iris pearly white; the bare orbits bluish" (*Heuglin*). Total length 14 inches, culmen 0·6, wing 4·05, tail 10, tarsus 0·95.

Young. Differs from the adult in having the back pale ochreous buff barred with black, and in the ochreous margins to the wing-coverts and quills.

Hab. Abyssinia and Bogos-land, south to Shoa.

a, b.	♂ ♀ ad. sk.	Bejook, Bogos-land, July (*W. Jesse*).	Tweeddale Coll.

c, *d*. ♀ ad. et juv. sk.	Bejook, July (*W. Jesse*).	Sharpe Coll.
e. ♀ ad. sk.	Bejook, July 17.	W. T. Blanford, Esq. [P.].
f, *g*. Ad. sk.	Habab, Bogos-land (*Esler*).	Shelley Coll.
h. Ad. sk.	Habab (*Esler*).	Sharpe Coll.
i. Ad. sk.	Abyssinia.	Dr. Rüppell [C.].
k. ♀ ad. sk.	Dolo, Abyssinia, May 16 (*W. Jesse*).	Salvin-Godman Coll.

5. Colius affinis. (Plate XII. fig. 2.)

Colius leucotis (*nec Rüpp.*), *Sharpe, P. Z. S.* 1873, p. 714 (Mombasa); *Nichols. P. Z. S.* 1878, p. 358 (Dar-es-Salaam); *Cab. J. f. O.* 1878, p. 237 (Kikamba); *Fischer & Reichen. t. c.* p. 252 (Mombasa); *Gurney, Ibis*, 1881, p. 128; *Böhm, J. f. O.* 1885, p. 63 (Karema); *Salvad. Ann. Mus. Genov.* (2) i. p. 100 (1884; Shoa); *Fischer, Zeitschr. ges. Orn.* i. p. 363 (1884); *id. J. f. O.* 1885, p. 123 (Zanzibar; Takaungu; Kipini; Wapokomoland; Bagamoyo; Pangani; Paré; Aruscha; Nguruman); *Shelley, Ibis*, 1885, p. 311; *Reichen. J. f. O.* 1887, p. 57 (Kondoa); *Matschie, t. c.* pp. 140, 149 (Lufuku); *Reichen. J. f. O.* 1889, p. 272 (Mekakalla River); *id. J. f. O.* 1891, p. 148 (Ferhani).

Colius striatus (*nec Gm.*), *Scl. P. Z. S.* 1864, pp. 107, 112 (Uzaramo); *Heugl. Orn. N.O.-Afr.* iv. App. p. cliv (1871, pt.); *Finsch & Hartl. Vög. Ostafr.* p. 471 (1870, pt.).

Adult male. Similar to *C. leucotis*, but with the barring on the neck and throat infinitely less marked, sometimes nearly obsolete. Total length 13·3 inches, culmen 0·6, wing 3·55, tail 9·2, tarsus 0·75.

Hab. White Nile district to Central Africa and thence to Eastern Africa.

a. Ad. sk.	Sudan (*Knoblecker*).	Sharpe Coll.
b. Ad. sk.	White Nile.	Purchased.
c–e. Ad. sk.	Mombasa (*Hanford*).	Rev. H. T. Buxton [P.].
f. Ad. sk.	Mombasa.	Sharpe Coll.
g. ♂ ad. sk.	Kitui, Ukamba, April.	Dr. Hildebrandt [C.].
h, *i*, *k*. ♂ ad. sk.	Kilimanjaro (5000 to 6000 ft.) (*H. H. Johnston*).	British Association [P.].
l. ♂ ad. sk.	Kilimanjaro (5000 ft.), Aug. 8.	H. C. V. Hunter, Esq. [P.].
m. ♀ ad. sk.	Ndara, Teita, Aug. 25.	H. C. V. Hunter, Esq. [P.].
n. Ad. sk.	Zanzibar (*E. C. Buxton*).	Shelley Coll.
o. Ad. sk.	Mtoni, March (*F. Bohndorff*).	Emin Pasha [P.].
p, *q*. Ad. sk.	Usambara Mountains (*Sir J. Kirk*).	Shelley Coll.
r, *s*. Ad. sk.	Dar-es-Salaam (*Buxton & Moir*).	Shelley Coll.

6. Colius castanonotus.

Colius castanonotus, *J. & E. Verr. Rev. Zool.* 1855, p. 351; *Hartl. Orn. Westafr.* p. 155 (1857); *Mont. Ibis*, 1862, p. 333 (Angola); *Gray*,

Hand-l. B. ii. p. 124, no. 7841 (1870); *Scl. P. Z. S.* 1876, p. 413, pl. 35; *Bocage, Orn. Angola*, p. 129 (1877); *Sharpe, ed. Layard's B. S. Afr.* p. 554 (1884); *Shelley, Ibis*, 1885, p. 310.

Adult. General colour above chocolate-brown, the wings like the back, with a greyish shade on the inner secondaries; lower back, rump, and upper tail-coverts maroon-red; tail-feathers brown with a greenish-grey shade; crown of head like the back, the fore part of the crown black, spotted minutely with white; fore part of cheeks and feathers below the eye as well as the chin black, spotted with white tips to the feathers; ear-coverts, hinder cheeks, and throat ashy grey with a slight pinkish tinge; remainder of under surface of body pale ochreous buff, deepening in colour on the under tail-coverts; under wing-coverts pale ochreous, ashy along the edge of the wing; quill-lining chestnut. Total length 13 inches, culmen 0·6, wing 4·1, tail 3·5, tail 1·85.

Hab. West Africa, from Gaboon to Angola.

a. Ad. sk.	Gaboon.	J. Verreaux. (Type of species.)
b. Ad. sk.	Angola.	Monteiro Coll.
c. ♀ ad. sk.	Capangombe (*Anchieta*).	Sharpe Coll.
d. Ad. sk.	Quanza River.	Shelley Coll.

7. Colius colius.

Le Coliou du Cap de Bonne Espérance, *Briss. Orn.* iii. p. 304, pl. xvi. fig. 2 (1760); *Daubent. Pl. Enl.* v. pl. 282. fig. 1; *Buff. Hist. Nat. Ois.* iv. p. 404 (1788).

Loxia colius, *Linn. Syst. Nat.* i. p. 301 (1766).

Cape Coly, *Lath. Gen. Syn.* ii. pt. i. p. 100 (1783).

White-backed Coly, *Lath. t. c.* p. 101, pl. 41 (1783).

Colius capensis, *Gm. Syst. Nat.* i. p. 842 (1788); *Gray, Gen. B.* ii. p. 393 (1848); *Bp. Consp.* i. p. 86 (1850); *Cab. & Heine, Mus. Hein.* Th. iii. p. 96 (1860); *Schl. Mus. Pays-Bas*, Cuculi, p. 79 (1864); *Gurney, Ibis*, 1868, p. 47 (Natal); *Gray, Hand-l. B.* ii. p. 124, no. 7840 (1870); *Gurney in Anderss. B. Dam.-Ld.* p. 202 (1872); *Barratt, Ibis*, 1876, p. 204 (Lydenburg, Marico); *Holub & Pelz. Beitr. Orn. Südafr.* p. 136 (1882); *Sharpe, ed. Layard's B. S. Afr.* pp. 553, 853 (1884); *Shelley, Ibis*, 1885, p. 310.

Colius erythropus, *Gm. Syst. Nat.* i. p. 842 (1788); *Gray, Gen. B.* ii. p. 393 (1848); *Strickl. & Scl. Contr. Orn.* 1852, p. 151; *Layard, B. S. Afr.* p. 221 (1867); *id. Ibis*, 1868, p. 247; *Ayres, Ibis*, 1871, p. 259 (Potchefstroom).

Colius leuconotus, *Lath. Ind. Orn.* i. p. 369 (1790); *Vieill. Nouv. Dict.* vii. p. 378 (1817).

Le Coliou à dos blanc, *Levaill. Ois. d'Afr.* vi. p. 391, pl. 257 (1808); *Sundev. Krit. Framst. Levaill.* p. 52 (1858).

Colius erythropygius, *Vieill. N. Dict. d'Hist. Nat.* vii. p. 377 (1817).

Colius colius, *Stejn. Stand. Nat. Hist. Birds*, p. 394 (1885).

Adult. Above delicate grey with a light lilac tinge; down the centre of the back a line of white as far as the rump, bordered on each side by a broad band of black, and followed by a patch of

maroon on the lower rump; upper tail-coverts and tail grey, the lateral feathers edged with white; wings grey like the back; the quills brown, externally grey; sides of face, ear-coverts, and throat grey with a lilac tinge, becoming decidedly purplish on the breast and sides of the body; abdomen, flanks, and under tail-coverts pale ochreous buff; lesser wing-coverts white; median series black; quills dusky below, ashy whitish along the inner web: "bill black at tip, dark crimson at base, as is the cere; bare skin round eye bright scarlet; tarsi and feet dark pink; iris greyish white" (*T. Ayres*). Total length 12·5 inches, culmen 0·6, wing 3·5, tail 8, tarsus 0·8.

Hab. South Africa.

a, b. Ad. sk.	South Africa.	Old Collection.
c–e. Ad. sk.	Cape Colony (*Layard & Butler*).	Shelley Coll.
f, g. Ad. sk.	Otjimbinque, Damara-land, July, Aug. (*C. J. Andersson*).	Sharpe Coll.

8. Colius erythromelon.

? Loxia cinerea, *Sparrm. Mus. Carlss.* pl. 88 (1786).
Indian Coly, *Lath. Gen. Syn. Suppl.* i. p. 147 (1787).
Colius indicus, *Lath. Ind. Orn.* i. p. 370 (1790); *Gray, Gen. B.* ii. p. 393 (1848); *Bp. Consp.* i. p. 84 (1850).
Colius coromandelicus, *Licht. Hamb. Nat. Verz.* 1793, p. 42.
Le Coliou Quiriva, *Levaill. Ois. d'Afr.* vi. p. 42, pl. 258 (1808); *Sundev. Krit. Framst. Levaill.* p. 52 (1857).
Colius erythromelon, *Vieill. N. Dict. d'Hist. Nat.* vii. p. 378 (1817); *Gray, Gen. B.* ii. p. 393 (1848); *id. Hand-l. B.* ii. p. 124, no. 7843 (1870); *Gurney in Anderss. B. Dam.-Ld.* p. 203 (1872); *Buckley, Ibis*, 1874, p. 373 (Transvaal); *Ayres, Ibis*, 1880, p. 108 (Rustenberg); *Sharpe in Oates's Matabele-Land*, p. 305 (1881); *id. ed. Layard's B. S. Afr.* pp. 551, 853 (1884); *Scl. P. Z. S.* 1884, p. 473, pl. 45; *Shelley, Ibis*, 1885, p. 309.
Colius carunculatus, *Steph. in Shaw's Gen. Zool.* xiv. p. 91 (1826).
Colius senegalensis (*nec Gm.*), *Less. Traité*, p. 453 (1831).
Colius quiriva, *Rüpp. Mus. Senckenb.* iii. p. 43 (1845); *Schl. Mus. Pays-Bas*, Cuculi, p. 80 (1864); *Kirk, Ibis*, 1864, p. 329 (Zambesi); *Heugl. Orn. N.O.-Afr.* i. p. 715 (1870).
Colius macrurus (*nec Gm.*), *Strickl. & Scl. Contr. Orn.* 1852, p. 151.
Urocolius indicus, *Bp. Consp. Vol. Anis.* p. 3 (1854).
Colius erythromelas, *Cab. & Hein. Mus. Hein.* Th. iii. p. 97 (1860); *Finsch & Hartl. Vög. Ostafr.* p. 469 (1870); *Bocage, Orn. Angola*, p. 128 (1877).
Colius capensis (*nec Gm.*), *Layard, B. S. Afr.* p. 222 (1867).

Adult. General colour above greenish grey, slightly ochraceous on the back and rump, the green more pronounced on the wings; tail-feathers green, dusky internally, with black shafts; crown of head greenish grey, with a slight wash of sandy buff on the crest; forehead tawny buff; sides of neck like the back, but the ear-coverts and cheeks decidedly green, the fore part of the cheeks fulvescent; throat and under surface of body sandy buff, the sides of the body greenish grey, the flanks and under tail-coverts

decidedly green; under wing-coverts tawny buff, chestnut on the quill-lining: "bill with the tip black, the basal part and the bare skin round the eye crimson; tarsi and feet rose-red; iris pale grey" (*C. J. Andersson*). Total length 11·5 inches, culmen 0·55, wing 3·6, tail 7, tarsus 0·7.

The Cape birds are much the darkest and greenest; the Transvaal birds are decidedly paler everywhere, and show scarcely any green on the ear-coverts; but the Damara birds are extremely pale and have creamy white foreheads. The latter may be called *Colius lacteifrons*, but they seem to be approached by some of the Transvaal birds.

Hab. Southern Africa, to Angola on the West Coast, and to the Zambesi and Mozambique on the East.

a. Ad. sk.	South Africa.	Sir A. Smith [C.].
b. Ad. sk.	South Africa.	Earl of Derby [P.].
c. Ad. sk.	Cape Colony.	J. Rocke, Esq. [P.].
d. Ad. sk.	Cape Colony (*Butler*).	Shelley Coll.
e. Ad. sk.	Table Mountain, July 22 (*C. J. Andersson*).	Sharpe Coll.
f. Ad. sk.	Swellendam (*Cairncross*).	Sharpe Coll.
g. ♂ ad.; *h*, *i*. ♀ ad. sk.	Transvaal, July (*T. E. Buckley*).	Shelley Coll.
k. Ad. sk.	Marico, Oct.	F. A. Barratt, Esq. [P.].
l. ♂ ad. sk.	Rustenberg, June 24 (*T. Ayres*).	Gurney Coll.
m. ♂ ad. sk.	Mahalapsie River, near Shoshong, Aug. (*F. Oates*).	W. E. & C. G. Oates, Esqrs. [P.].
n. Ad. sk.	Makalaka country (*Dr. Bradshaw*).	Shelley Coll.
o, *p*. Ad. sk.	Tete, Zambesi (*Sir J. Kirk*).	Livingstone Expedition.
q. ♂ ad. sk.	Mozambique, March.	Dr. Gueinzius [C.].
r, *s*. ♂ ad.; *t*, *u*. ♀ ad. sk.	Damara-land, June to Aug. (*C. J. Andersson*).	Sharpe Coll.
v, *w*. ♂ ad. sk.	Damara-land, July 25 (*C. J. A.*).	Shelley Coll.
x. ♀ ad. sk.	Rio Chimba, Nov. (*J. Anchieta*).	Sharpe Coll.

9. Colius macrurus.

Le Coliou hupé du Sénégal, *Briss. Orn.* iii. p. 306, pl. xvi. fig. 3 (1760).

Lanius macrourus, *Linn. Syst. Nat.* i. p. 134 (1766).

Le Coliou huppé du Sénégal, *Daubent. Pl. Enl.* v. pl. 282. fig. 2; *Buff. Hist. Nat. Ois.* iv. p. 404 (1778).

Senegal Coly, *Lath. Gen. Syn.* ii. pt. 1, p. 101 (1783).

Colius senegalensis, *Gm. S. N.* i. p. 842 (1788); *Vieill. Nouv. Dict. d'Hist. Nat.* vii. p. 378 (1817); *id. Gal. Ois.* p. 54, pl. 51 (1825); *Rüpp. Syst. Uebers.* p. 79 (1845); *Bp. Consp.* i. p. 86 (1850); *Hartl. Orn. W.-Afr.* p. 155 (1857); *id. J. f. O.* 1861, p. 260; *Antin. Cat. descr. Ucc.* p. 76 (1864); *Fischer & Reichen. J. f. O.* 1879, p. 340 (Kipini, Mambrui); *Fischer, Zeitschr. ges. Orn.* i. p. 363 (1884; Pangani); *id. J. f. O.* 1885, p. 123 (Paré).

Colius macrourus, *Gray & Mitch. Gen. B.* ii. p. 393, pl. 96 (1848); *Blyth, Cat. B. Mus. As. Soc.* p. 70 (1849); *Horsf. & Moore, Cat.*

B. Mus. E. I. Co. ii. p. 606 (1856; Shoa); *Cab. & Heine, Mus. Hein.* Th. iii. p. 96 (1860; Senaar); *Schl. Mus. Pays-Bas*, Cuculi, p. 80 (1863; Senegambia, Gaboon); *Gray, Hand-l. B.* ii. p. 124, no. 7842; *Heugl. Orn. N.O.-Afr.* i. p. 712, App. p. cliv (1870–71); *Finsch, Tr. Z. S.* vii. p. 275 (1870); *Blanf. Geol. & Zool. Abyss.* p. 318 (1870); *Antin. & Salvad. Ann. Mus. Genov.* iv. p. 416 (1873); *Bocage, Orn. Angola*, p. 130 (1877); *Hartl. Abhandl. nat. Ver. Bremen*, vii. p. 109 (1881; Lado); *Shelley, Ibis*, 1885, p. 368.

Urocolius macrourus, *Bp. Consp. Vol. Anis.* p. 3 (1854).

Adult male. Similar to *C. erythromelon*, but much paler, and distinguished by a tuft of torquoise-blue feathers on each side of the nape; upper mandible red, the base and the tip horny blackish; lower mandible black: "feet rosy crimson, the soles bluish yellow; iris and orbital ring crimson" (*Von Heuglin*). Total length 13 inches, culmen 0·6, wing 3·45, tail 9, tarsus 0·7.

Young. Lighter in colour than the adults, and wanting the blue tufts on the sides of the nape.

Hab. N.E. Africa, across to Senegambia and Gaboon. Said to have occurred in Angola, but this locality is extremely doubtful.

a. ♂ ad. sk.	Mohaber, Abyssinia, July 9 (*W. Jesse*).	Shelley Coll.
b. Ad. sk.	Abyssinia (*Col. Sturt*).	Hume Coll.
c. Juv. sk.	Kelamet, Bogos, July 9.	W. T. Blanford, Esq. [C.].
d, *e*. ♂ ad. sk.	Rairo, Bogos, Aug.	W. T. Blanford, Esq. [C.].
f. ♂ ad. sk.	Rairo, Aug. 16 (*W. Jesse*).	Salvin-Godman Coll.
g. Ad. sk.	Rairo, Aug. 14 (*W. Jesse*).	Sharpe Coll.
h. ♂ ad. sk.	Kokai, July 9 (*W. Jesse*).	Tweeddale Coll.
i. ♂ ad. sk.	Efat, Shoa, April (*Sir W. C. Harris*).	India Museum.
k. Ad. sk.	Kordofan.	Consul Petherick [P.].
l. Ad. sk.	White Nile.	F. Galton, Esq. [P.].
m. ♂ ad. sk.	Lado, March 11 (*Emin Pasha*).	Shelley Coll.

Suborder BUCEROTES.

(By W. R. OGILVIE-GRANT.)

Bill large or very large, supported internally by cellular bony structure. Base of the culmen with a variously-shaped casque, in some species of large size while in others it is rudimentary and only indicated by a slight compressed keel. In the majority the casque is closed, hollow, and supported by bony tissue; but in *Bucorax* it is more or less open anteriorly, and in *Rhinoplax* the anterior wall is solid, while the posterior part is nearly filled up with parallel bony columns.

Palate desmognathous. Basipterygoid process absent. Episternal process perforated to receive the bases of the coracoids. Sternum broad behind, with two shallow notches. Skeleton unusually pneumatic.

Cæca none.

Hallux connected with the *flexor perforans digitorum*, and not with the *flexor longus hallucis*. *Flexor perforans digitorum* split into branches, of which one leads to the first digit, one to the second, and generally one to the third and fourth.

Margins of the eyelids furnished with strong lashes.

Spinal feather-tract not defined on the neck, which has no lateral bare tracts. Tail-feathers ten. After-shaft none. No down-feathers. Oil-gland tufted. Under wing-coverts do not cover the basal parts of the quills *.

Egg white. Young hatched naked and helpless.

This suborder comprises one family only, the Hornbills.

Family BUCEROTIDÆ.

Range. Africa, Austro-Malayan Region, and India.

Key to the Genera.

I. Casque hollow; back of the neck and middle of back feathered
  A. Tarsus long, about twice as long as the middle toe and claw ..... *BUCORACINÆ.*
    1. Bucorax, p. 349.
  B. Tarsus short, shorter or about equal to the middle toe and claw ..... *BUCEROTINÆ.*
    a. Tail subquadrate; the middle tail-feathers hardly longer than the outer pair.
      a'. Chin and throat feathered.
        a''. Crest of long soft feathers; casque large, elevated, and compressed or rudimentary, scarcely rising above the level of the culmen. Plumage black and white. [Size large.] .... 16. Bycanistes, [p. 416.

* No doubt the loud noise made by many of these birds when flying is caused by the air rushing between the bases of the quills.

b''. Crest moderate, composed of hairy feathers.
a'''. Tail white, with a wide black bar across the middle [Size very large.]
*a*⁴. Casque large, wedge-shaped, elevated, the anterior point either nearly straight or recurved ..... 2. BUCEROS, p. 352.
*b*⁴. Casque large, subquadrate, concave in front, and rising into a square corner on either side at right angles to the culmen . 3. DICHOCEROS, [p. 355.
b'''. Tail white, usually stained orange or rufous, no black bar across the middle. (Casque large, flat-topped, and boat-shaped.) [Size large.] ..... 4. HYDROCORAX, [p. 357.
c''. Crest moderately long, composed of soft feathers; casque absent or very small and keel-shaped. [Size small.] ..... 15. LOPHOCEROS *, [p. 398.
b'. Chin and throat naked.
d''. Casque large and swollen, much like that of *Anthracoceros*, but less compressed laterally ..... 6. GYMNOLÆMUS, [p. 370.
e''. Casque short, elevated in front, smooth or transversely folded, and extending over the skull to above or behind the eye ..... 8. CRANORRHINUS, [p. 377.
f''. Casque moderate, compressed, and somewhat elevated, and not extending over the skull ..... 7. PENELOPIDES, [p. 371.
g''. Casque consists of a series of overlapping oblique plates, and does extend behind over the skull .... 10. RHYTIDOCEROS, [p. 382.
b. Tail wedge-shaped; centre pair of tail-feathers much longer than the outer pair.
c'. Feathers on the lores and on the top of the head not unusually elongate; tail moderate.
h''. No naked wattle at the base of the throat.
e'''. Casque large or very large, subcrescentic, swollen posteriorly, and extending an inch or more behind the vertical from the eye; middle of chin and throat feathered ..... 5. ANTHRACOCEROS, [p. 361.
d'''. Casque small, keel-shaped; crest of long feathers.

* In the somewhat aberrant form *Lophoceros hartlaubi* the tail is wedge-shaped, the outer pair of feathers being considerably shorter than the centre pair.

c^4. Chin and throat naked. (Plumage blackish brown.) ..... [p. 390. 12. ANORRHINUS,

d^4. Chin and middle of throat feathered. (Plumage of underparts brick colour.) ..... [p. 392. 13. PTILOLÆMUS,

e'''. Casque small but well-developed or absent; crest very slight. (Plumage grey.) ..... 14. OCYCEROS, p. 394.

f'''. Casque rudimentary; base of the upper mandible transversely grooved; chin and throat naked; crest moderate. [Size very large.] ..... 9. ACEROS, p. 380.

i''. A naked wattle at the base of the throat; casque large and swollen . [p. 388. 11. CERATOGYMNA,

d'. Feathers on the lores very long, directed upwards and forwards; tail long or very long.

k''. Crest composed of hairy feathers; middle pair of tail-feathers not much longer than the following .. [p. 423. 17. BERENICORNIS,

l''. Crest composed of soft feathers; middle pair of tail-feathers much longer than the next pair..... [p. 424. 18. ORTHOLOPHUS,

II. Anterior part of casque solid; neck and throat and a line down the centre of the back naked; tail wedge-shaped; centre pair of tail-feathers very long, more than twice as long as the second pair ..... [p. 426. 19. RHINOPLAX,

1. BUCORAX.

	Type.
Bucorvus, *Less. Traité Orn.* p. 259 (1831)	B. abyssinicus.
Tragopan, *Gray, List Gen. B.* p. 65 (1841)	B. abyssinicus.
Tmetoceros, *Cab. Wiegm. Arch.* p. 345 (1847)	B. abyssinicus.
Bucorax, *Sundev. Œfv. Kongl. Vetens. Ak. Förh.* vi. p. 161 (1849)	B. abyssinicus.

Bill long, pointed, compressed and slightly curved. Casque covers the basal third or more of the culmen, and is either elevated, subcylindrical and open in front, or keel-shaped and compressed. Throat naked. Tail rather short, subequal. Tarsus very long, about twice as long as the middle toe and claw.

Range. Africa.

Key to the Species.

I. Casque wide open in front ..... *abyssinicus*, p. 349.
II. Casque closed or slightly open in front ..... *caffer*, p. 351.

1. Bucorax abyssinicus.

Le Grand Calao d'Abyssinie, *Daubent. Pl. Enl.* no. 779.
Le Calao d'Abyssinie, *Buff. Hist. Nat. Ois.* vii. p. 155 (1780).
Abyssinian Hornbill, *Lath. Gen. Syn.* i. p. 347 (1781).

Le Calao caronculé, *Levaill. Hist. Nat. Ois. d'Afr.* v. pp. 109, 230, 231, 232 (1806).

Buceros brac, *Dumont, Dict. Sc. Nat.* vi. p. 201 (1817).

Buceros abyssinicus, *Bodd. Tabl. Pl. Enl.* p. 48 (1783); *Gm. S. N.* i. p. 358 (1788); *Lath. Ind. Orn.* i. p. 143 (1790); *Shaw, Gen. Zool.* viii. p. 21 (1811); *Vieill. N. Dict. d'Hist. Nat.* iv. p. 589 (1816); *Merrem, Ersch u. Gruber, Encycl.* xiii. p. 281 (1824); *Des Murs, &c. in Lefebvre, Voy. Abyss.* p. 125 (1845–50); *Hartl. J. f. O.* 1855, p. 361; *Nitzs. Pteryl. Ray Soc.* p. 102, pl. vi. figs. 1 & 2 (1867).

Bucorvus abyssinicus, *Less. Traité Orn.* p. 256 (1831); *Bonap. Consp. G. A.* i. p. 89 (1850); *Bonap. Consp. Vol. Anisod.* p. 2 (1854); *Horsf. & Moore, Cat. B. Mus. E. Ind. Co.* ii. p. 581 (1856–8); *Blanf. Geol. Zool. Abyss.* p. 330 (1870); *Antin. e Salvad. Ann. Mus. Civ. Genov.* p. 420 (1873); *id. Cat. Ucc.* p. 57 (1873); *Reich. J. f. O.* 1875, p. 12; *Elliot, Monogr. Bucerot.* pl. i. (1877); *Ottley, P. Z. S.* 1879, p. 461; *Salvad. Ann. Mus. Civ. Genov.* xxi. p. 101 (1884); *Dubois, Bull. Mus. Belg.* iii. p. 221 (1884); *Beddard, P. Z. S.* 1885, p. 41, fig. 2; *Shelley, Ibis*, 1888, p. 48; *Beddard, P. Z. S.* 1889, p. 588, figs. 1 & 4.

Tragopan abyssinicus, *Gray, List Gen. B.* p. 65 (1841); *Rüpp. Syst. Uebers.* p. 79 (1845).

Bucorax abyssinicus, *Sundev. Œfver. Kongl. Vetens. Ak. Förh.* vi. p. 161 (1849); *Hartl. Orn. W.-Afr.* p. 165 (1857); *Hartl. J. f. O.* 1861, p. 261; ? *Monteiro, Ibis*, 1862, p. 338; *Antin. Cat. desc. Ucc.* p. 77 (1864); *Sharpe, Ibis*, 1869, p. 385; *Bocage, P. Z. S.* 1873, p. 698, figs. 1 & 4.

Bucorvus abyssinicus, var. guineensis, *Dubois, Bull. Mus. Belg.* iii. p. 221 (1884).

Tmetoceros abyssinicus, *Cab. & Heine, Mus. Hein.* ii. p. 175 (1860); *Finsch u. Hartl. Vög. O.-Afr.* p. 480 [part] (1870); *Finsch, Tr. Z. S.* vii. p. 279 (1870).

Tmetoceros habessinicus, *Heugl. Orn. N.O.-Afr.* i. p. 731 [part] (1871).

Buceros carunculatus, *Wagl. Syst. Av.* Buceros, no. 6 (1827).

Buceros carunculatus, var. abyssinicus, p. 19, & var. guineensis, p. 20, *Schl. Mus. Pays-Bas*, i. Buceros (1862).

Bucorvus pyrrhops, *Elliot, Ann. Mag. N. H.* xx. p. 171 (1878); *id. Monogr. Bucerot.* pl. ii. (1878); *De Souza, J. Sci. Lisb.* xxxviii. p. 118, pl. (1884).

Bucorax guineensis, *Bocage, P. Z. S.* 1873, p. 698, figs. 3 & 7.

Adult male. All the plumage black except the primaries, which are white; naked skin round eye and on middle of throat blue, remainder red; iris brown; legs and feet dusky; bill and casque black, the base of the maxilla with a reddish patch; casque short, abruptly truncate, and wide open anteriorly. Total length 43 inches, wing 23, tail 13·5, tarsus 6·5.

Adult female. Plumage resembles that of male; naked skin round eye and on throat purple; iris, legs, and bill as above. Total length 42 inches, wing 20·8, tail 13, tarsus 5·8.

Hab. North-eastern to West Africa.

a. Ad. sk.; *b.* Head.	Shoa (*Harris*).	India Museum.
c, d. ♂ ♀ ad. sk.	Facado, Abyssinia, May (*W. Jesse*).	Tweeddale Coll.

e. Ad. sk.	N. Africa.	
f. Head only.		
g. Sternum.	Abyssinia.	W. T. Blanford, Esq. [P.].
h. Skeleton.	W. Africa.	Zoological Soc. Coll.
i. Imm. skull.		

2. Bucorax caffer.

Bucorax abyssinicus, *Gurney* (*nec Bodd.*), *Ibis*, 1861, p. 132; ? *Monteiro*, *Ibis*, 1862, p. 338; *Kirk*, *Ibis*, 1864, p. 326.

Bucorvus abyssinicus, ? *Sclater*, *P. Z. S.* 1864, p. 111; *Layard*, *B. S. Afr.* p. 228 (1867); *Gurney*, *Ibis*, 1868, p. 162; *Ayres*, *Ibis*, 1869, p. 296; *Gurney*, *ed. Anderss. B. Damaraland*, p. 205 (1872); *id. P. Z. S.* 1876, p. 60; *Bocage*, *Orn. Angola*, p. 111 (1881); *Shelley*, *P. Z. S.* 1881, p. 591.

Tmetoceros abyssinicus, *Finsch u. Hartl. Vög. O.-Afr.* p. 480 [part] (1870); *Finsch*, *Zeit. ges. Orn.* 1884, p. 361; *id. J. f. O.* 1885, p. 126; *Reichen. J. f. O.* 1887, p. 60.

Tmetoceros habessinicus, *Heugl. Orn. N.O.-Afr.* i. p. 731 [part] (1871).

Buceros carunculatus, var. cafer, *Schl. Mus. Pays-Bas*, i. Buceros, p. 20 (1862).

Bucorax cafer, *Bocage*, *P. Z. S.* 1873, p. 698, figs. 2, 5, & 6; *id. J. Ac. Sc. Lisb.* no. xvi. p. 284 (1873); *ibid.* no. xvii. p. 57 (1874); *ibid.* no. xix. p. 149 (1876); *Sharpe*, *in Layard's B. S. Afr.* pp. 122 & 808 (1875); *Bocage*, *Orn. Angola*, p. 111 (1881).

Bucorvus cafer, *Elliot*, *Mon. Bucerot.* pl. 3 [text] (1880); *Shelley*, *Ibis*, 1882, p. 245.

Bucorvus caffer, *Shelley*, *Ibis*, 1888, p. 49.

Bucorvus abyssinicus, var. cafer, *Dubois*, *Bull. Mus. Belg.* iii. p. 222 (1884).

Adult male. Plumage similar to *B. abyssinicus*; bare skin of neck and round eye bright red; iris light brown; legs black; bill and casque black, the latter sloping gradually to the culmen and scarcely open anteriorly. Total length 40 inches, wing 22, tail 13·5, tarsus 5·5.

Adult female. Resembles the male in plumage and differs only in having the bare skin of the throat and round the eye blue.

In a somewhat immature example the tail is tipped with white and the plumage is browner, especially on the underparts of the body, while the white primaries are mixed with black.

Hab. South and East Africa; Sük Country (*Jackson*); ? Angola.

a. ♂ ad. sk.	Zululand, June (*Gordge*).	Shelley Coll.
b, *c*. Ad. et imm.	Pangani River, Jan. (*Kirk*).	Shelley Coll.
d. ♀ ad. sk.	Cape.	Sir A. Smith [P.].
e. Ad. sk.	Cape.	Purchased.
f. Ad. sk.	S. Africa.	R. B. Sharpe, Esq. [P.].
g. Ad. st.	S. Africa.	Purchased.
h, ♂ ad. sk.	Humbe, April (*Anchieta*).	Shelley Coll.
i, *k*. Heads only.		

2. BUCEROS.

	Type.
Buceros, *Linn. S. N.* i. p. 153 (1766)	B. rhinoceros.
Meniceros, *Gloger, Hand- u. Hilfsb.* p. 335 (1842)....	B. rhinoceros.

Bill large, stout, and curved; casque large wedge-shaped, elevated, and somewhat compressed, the anterior angle either extending forward in a prolonged point or recurved; sides of throat naked; tail-feathers subequal, white with a broad subterminal black band: crest moderate, composed of hairy feathers; size very large.

Range. Malay Peninsula, Sumatra, Java, Borneo.

Key to the Species.

I. Casque curved up anteriorly.
  a. Base of the casque and of both mandibles black; a black line from the nostril runs up the outer side of the casque ..... *rhinoceros* ♂, p. 352.
  b. No black at the base of the casque and mandibles; no black line ..... *rhinoceros* ♀, p. 352.
II. Casque nearly straight, very slightly curved anteriorly.
  c. As in *B. rhinoceros* ♂ ..... *silvestris* ♂, p. 354.
  d. As in *B. rhinoceros* ♀ ..... *silvestris* ♀, p. 354.

1. Buceros rhinoceros.

Le Calao des Indes, *Briss. Orn.* iv. p. 571 (1760).

Le Calao Rhinoceros, *Daubent. Pl. Enl.* no. 934; *Buff. Hist. Nat. Ois.* vii. p. 161 (1780); *Levaill. Hist. Nat. d'Ois. l'Amér.* i. p. 6 pls. 1 & 2 (1801).

Rhinoceros Hornbill, *Lath. Gen. Syn.* i. p. 342 (1781); *id. Suppl.* i. p. 69 (1787).

Buceros rhinoceros, *Linn. S. N.* i. p. 153 (1766); *Forst. Ind. Zool.* p. 40 (1781); *Gm. S. N.* i. p. 360 (1788); *Shaw & Nodd. Nat. Misc.* ii. pl. xli. (1789–1813); *Lath. Ind. Orn.* i. p. 141 (1790); *Shaw, Gen. Zool.* viii. p. 3, pl. i (1811); *Vieill. N. Dict. d'Hist. Nat.* iv. p. 598 (1816); *Horsf. Tr. Linn. Soc.* xiii. p. 175 (1822); *Merrem, Ersch u. Gruber, Encycl.* xiii. p. 287 (1824); *Wagl. Syst. Av.* Buceros, no. 1 (1827); *Less. Traité Orn.* p. 255, pl. 31 (1831); *Gray, Gen. B.* ii. p. 399 [part] (1847); *Bonap. Consp. Gen. Av.* i. p. 89 (1850); *id. Consp. Vol. Anisod.* p. 2 (1854); *Horsf. & Moore, Cat. B. Mus. E. Ind. Co.* ii. p. 582 (1856–58); *Moore, P. Z. S.* 1859, p. 446; *Cab. & Heine, Mus. Hein.* ii. p. 174 (1860); *Sclat. Wolf's Zool. Sketch.* (2) pl. xxx. (1861); *Blyth, Ibis*, 1866, p. 352; *Gray, Hand-l. B.* ii. p. 127, sp. 7866 (1870); *Garrod, P. Z. S.* 1873, p. 464; *ibid.* 1875, p. 342, fig. 4; *Gullv. P. Z. S.* 1875, p. 490; *Garrod, P. Z. S.* 1876, p. 518, pl. xlix. fig. 2; *Elliot, Monog. Bucerot.* pl. 4 [text] (1877); *Sharpe, Ibis*, 1879, p. 246; *Kelham, Ibis*, 1881, p. 383; *Nicholson, Ibis*, 1883, p. 240; *Milne-Edw. Compt. Rend.* xcix. p. 833 (1884); *Beddard, P. Z. S.* 1889, p. 588, fig. 2; *Hartert, J. f. O.* 1889, p. 369; *Sharpe, Ibis*, 1890, p. 14; *Elliot, Auk*, 1891, p. 8.

Buceros (Buceros) rhinoceros, *Dubois, Bull. Mus. Belg.* iii. p. 194 (1884).

Buceros rhinoceros, var. *a.* sumatranus, *b.* borneensis, *c.* indica, *Müll. & Schl. Verh. Ges. Ned. Ind.* p. 22 (1839–44).
Buceros rhinoceros, var. sumatranus *and* var. borneensis, *Schl. Mus. Pays-Bas*, i., Buceros, p. 4 (1862).
Buceros rhinoceroides (*Temm. Mus. Lugd.*), *Bonap. Consp. Gen. Av.* i. p. 89 (1850); *id. Consp. Vol. Anisod.* p. 2 (1854).
Buceros sublunatus (*Temm. Mus. Lugd.*), *Bonap. Consp. Gen. Av.* i. p. 90 (1850); *id. Consp. Vol. Anisod.* p. 2 (1854).

Adult male. Head, neck, back, wings, and breast dark black, the back and wings being slightly glossed with steel-blue and dark green; rump, upper tail-coverts, belly, thighs, and under tail-coverts white; tail white, with a wide subterminal bar of black across each feather; bill whitish yellow; base of both mandibles and base of casque black, casque curving up anteriorly, dark lake-red shading to orange on the lower part; a black line runs along the side from the nostril to the anterior part of the casque; iris deep lake; legs and feet yellowish green. Total length 45 inches, wing 18, tail 14·3, tarsus 2·5.

Adult female does not differ in plumage from the male; bill and casque as in the male, but not black posteriorly, and there is no black line running from the nostril up the middle of the casque. Total length 38·5 inches, wing 17·2, tail 13·5, tarsus 2·3.

Young does not differ in plumage from the adult, but the casque is only indicated by a small elongate triangular lump on the top of the maxilla. The small casque is orange-red, and the same colour surrounds the base of the mandibles and gradually shades into pale yellow towards the extremity.

Hab. Malay Peninsula, Sumatra, Borneo.

a. ♂ ad. sk.	Johore, Aug. (*W. Davison*).	Hume Coll.
b. ♀ ad. sk.	Klang, April (*W. Davison*).	Hume Coll.
c, d. ♂ ♀ ad. sk.	Malacca (*Dr. Cantor*).	India Museum.
e. ♂ ad. sk.	Malacca.	Capt. S. Pinwill [P.].
f. ♂ ad. sk.	Malacca (*Dr. A. C. Maingay*).	Tweeddale Coll.
g. ♂ ad. sk.	Rawas River, Sumatra, Nov. (*H. O. Forbes*).	F. Nicholson, Esq. [P.].
h. ♂ ad. sk.	Tandjong, Sumatra, Aug. (*H. O. Forbes*).	F. Nicholson, Esq. [P.].
i. ♂ ad. sk.	Mt. Sago, Sumatra, Sept. (*Carl Bock*).	Tweeddale Coll.
k–m. ♂ ♀ ad. et ♂ imm. sk.	Sumatra, Sept., Oct. (*Carl Bock*).	Tweeddale Coll.
n. ♂ ad. sk.	Sumatra.	Wallace Coll.
o, p. ♂ ♀ ad. sk.	Lawas River, Borneo.	R. T. Ussher, Esq. [C.].
q. ♂ ad. sk.	Lawas River, Borneo.	H. Veitch, Esq. [P.].
r. ♀ ad. sk.	Sarawak.	Wallace Coll.
s. Imm. sk.	Baram, Sarawak.	C. Hose, Esq. [C.].
t. ♀ ad. st.	Indian Archipelago.	
u. ♂ ad., head only.		
v. Skeleton.		

2. Buceros silvestris.

? Le Calao d'Afrique, *Briss. Orn.* iv. p. 570 (1760).
? Le Brac ou Calao d'Afrique, *Daubent. Pl. Enl.* viii. p. 39; *Buff. Hist. Nat. Ois.* vii. p. 154 (1780).
? African Hornbill, *Lath. Gen. Syn.* i. p. 348 (1781).
Le Calao à casque en croissant, *Levaill. Hist. Nat. d'Ois. l'Amér.* i. p. 26, pl. 13 (1801).
Crescent Hornbill, *Shaw, Gen. Zool.* viii. p. 7 (1811).
? Buceros africanus, *Gm. S. N.* i. p. 359 (1788); *Lath. Ind. Orn.* i. p. 143 (1790); *Shaw, Gen. Zool.* viii. p. 6 (1811); *Vieill. N. Dict. d'Hist. Nat.* iv. p. 591 (1816); *Merrem, Ersch u. Gruber, Encycl.* xiii. p. 282 (1824).
Hydrocorax indicus, *Haak, Tab. æn. desc.*
Buceros silvestris, *Vieill. N. Dict. d'Hist. Nat.* iv. p. 592 (1816); *Less. Traité Orn.* p. 256 (1831); *Elliot, Monogr. Bucerot.* pt. v. [text] (1881).
Buceros diadematus, *Dumont, Dict. Sc. Nat.* vi. p. 203 (1817).
Buceros niger, *Merrem, Ersch u. Gruber, Encycl.* xiii. p. 286 (1824).
Buceros lunatus, *Temm. Pl. Col.* ii. p. 63, pl. 546 (1834); *Bonap. Consp. Gen. Av.* i. p. 90 (1850); *id. Consp. Vol. Anisod.* p. 2 (1854); *Cab. & Heine, Mus. Hein.* ii. p. 175 (1860); *Gray, P. Z. S.* 1860, p. 356.
Buceros rhinoceros, var. *a.* javanica, *Müll. & Schl. Verh. Ges. Ned. Ind.* p. 22 (1839–44).
Buceros rhinoceros, var. lunatus, *Schl. Mus. Pays-Bas*, i. Buceros, p. 5 (1862).
Buceros (Buceros) rhinoceros, var. silvestris, *Dubois, Bull. Mus. Belg.* iii. p. 194 (1884).
Buceros rhinoceros, *Gray, Gen. B.* ii. p. 399 [part] (1847).

Adult male resembles *B. rhinoceros* in general appearance, but differs from it both in its larger size and in the shape of the casque, which is much longer and only very slightly curved up at the anterior end. The black subterminal band across the tail is, on the whole, considerably wider (ca. 5 inches), and the black of the middle portion of the shaft of each tail-feather is produced down the median line of the white basal part to the root; but neither of these characters is reliable, as they are occasionally more or less developed in specimens of *B. rhinoceros*. Bill and casque yellowish white, middle of casque orange-red, a black line from the nostril running up the outer edge of the casque; posterior of casque, base, and cutting-edge of both mandibles black. Total length 47 inches, wing 20·7, tail 16, tarsus 3·4.

Adult female does not differ in plumage from the male. There is no black at the posterior end of the casque or mandibles, nor any black line running up the outer edge of the casque from the nostril. Total length 46 inches, wing 18·3, tail 15·1, tarsus 3·2.

Hab. [? Sumatra (*Bock & Raffles*)] Java.

a. ♂ ad. sk.	[?] Sumatra (*Raffles*).	India Museum.
b. ♂ imm. sk.	[?] Sumatra (*Carl Bock*).	Tweeddale Coll.
c. ♂ ad. sk.	East Java.	Wallace Coll.
d. ♂ ad. st.	Indian Archipelago.	
e. ♀ ad. sk.		Bishop of Victoria [P.].

3. DICHOCEROS.

Type.
Dichoceros, *Gloger, Hand- u. Hilfsb.* p. 335 (1842)..... D. cavatus.
Homraius, *Bonap. Consp. Vol. Anisod.* p. 2 (1854)..... D. bicornis.

Bill very large, stout, and curved; casque large, subquadrate, covering the basal two-fifths of the culmen and extending two inches behind the eye, convex behind, concave in front, and rising on either side into a square corner at right angles to the culmen; sides of throat naked; tail-feathers subequal, with a broad subterminal black band; crest of hairy feathers fairly developed; size very large.

Range. Indo-Chinese Countries, Malayan Peninsula, Sumatra.

1. Dichoceros bicornis.

Le Calao des Philippines, *Briss. Orn.* iv. p. 568 (1760); *Buff. Hist. Nat. Ois.* vii. p. 157 (1780).

Philippine Hornbill, *Lath. Gen. Syn.* i. p. 345 (1781).

Le Calao à casque concave, *Levaill. Hist. Nat. d'Ois. l'Amér.* i. p. 10, pls. iii., iv., & v (1801).

Le Calao bicorne, *Levaill. Hist. Nat. d'Ois. l'Amér.* i. p. 16, pls. vii. & viii. (1801).

Buceros bicornis, *Linn. S. N.* i. p. 153 (1766); *Forst. Ind. Zool.* p. 40 (1781); *Gm. S. N.* i. p. 358 (1788); *Lath. Ind. Orn.* i. p. 142 (1790); *Shaw, Gen. Zool.* viii. p. 16 (1811); *Vieill. N. Dict. d'Hist. Nat.* iv. p. 597 (1816); *Merrem, Ersch u. Gruber, Encycl.* xiii. p. 283 (1824); *Temm. Pl. Col.* ii. sp. 4 [text] (1824); *Wagl. Syst. Av.* Buceros, no. 5 (1827); *Less. Traité Orn.* p. 254 (1831); *Müll. & Schl. Verh. Ges. Ned. Ind.* p. 27 (1839–44); *Gray, Gen. B.* ii. p. 399 (1847); *Bonap. Consp. Gen. Av.* i. p. 89 (1850); *Hartl. J. f. O.* 1859, p. 288; *Baker, J. As. Soc. Beng.* p. 292 (1859); *Sclat. Wolf's Zool. Sketch*, 2nd ser. pl. xxix. (1861); *Schl. Mus. Pays-Bas*, i. Buceros, p. 3 (1862); *Gray, Hand-l. B.* ii. p. 127 (1870); *Blanf. Ibis*, 1870, p. 466; *Garrod, P. Z. S.* 1873, p. 464; *Elliot, Ibis*, 1877, p. 416.

Dichoceros bicornis, *Glog. Hand- u. Hilsfb* p. 335 (1842); *Cab. & Heine, Mus. Hein.* ii. p. 173 (1860); *Hume, Nests & Eggs Ind. B.* p. 112 (1873); *Hume, Str. F.* ii. p. 470 (1874); *Blyth, J. As. Soc. Beng.* p. 68 (1875); *Wardlaw-Ramsay, Ibis*, 1877, p. 454; *Elliot, Mon. Bucerot.* pl. vi. [text] (1877); *Oates, B. Brit. Burmah*, ii. p. 87 (1883); *Oates, Ibis*, 1888, p. 72; *Oates, Hume's Nests & Eggs Ind. B.* iii. p. 68 (1890).

Homraius bicornis, *Bonap. Consp. Vol. Anisod.* p. 2 (1854); *Horsf. & Moore, Cat. B. Mus. E. Ind. Co.* ii. p. 583 (1856–58); *Moore, P. Z. S.* 1859, p. 447; *Jerd. B. Ind.* i. p. 242 (1862); *Blyth, Ibis*, 1866, p. 349; *Jerd. Ibis*, 1872, p. 4; *Marshall, Birds' Nests in Ind.* p. 46 (1877).

Buceros (Dichoceros) bicornis, *Dubois, Bull. Mus. Belg.* iii. p. 195 (1884).

Buceros cavatus, *Shaw, Gen. Zool.* viii. p. 18 (1811); *Raffl. Tr. Linn. Soc.* xiii. p. 291 (1822); *Merrem, Ersch u. Gruber*, p. 285 (1824); *Vig. App. Mem. Raffl.* p. 666 (1830); *Jerd. Madr. Journ.* p. 37 (1840); *Blyth, J. As. Soc. Beng.* xii. p. 986 (1842); *Gould, Cent. Birds*, p. 44 (1832); *Blyth, J. As. Soc. Beng.* xvi. p. 993

(1847); *Blyth, Cat. B. As. Soc. Beng.* p. 42 (1849); *Blanf. Ibis*, 1870, p. 466.

Dichoceros cavatus, *Glog. Hand- u. Hilsfb.* p. 335 (1842); *Hume, Str. F.* iii. p. 20 (1875); *Fairb. Str. F.* iv. p. 254 (1876); *Bourdillon, Str. F.* iv. p. 384 (1876); *Inglis, Str. F.* v. p. 20 (1877); *Hume & Dav. Str. F.* vi. p. 98 (1878); *Oates, Str. F.* vii. p. 45 (1878); *Hume, Str. F.* viii. p. 86 (1879); *Bingham, Str. F.* viii. p. 461 (1879), and ix. p. 158 (1880); *Vidal, Str. F.* ix. p. 50 (1880); *Butler, Cat. B. S. Bombay Pres.* p. 20 (1880); *id. Str. F.* ix. p. 383 (1880); *Oates, Str. F.* x. p. 188 (1882); *Davison, Str. F.* x. p. 352 (1883); *Hume, Str. F.* xi. p. 51 (1888).

Buceros (Homraius) cavatus, *Tickell, Ibis*, 1864, p. 176.

Buceros cristatus, *Vieill. N. Dict. d'Hist. Nat.* iv. p. 591 (1816).

Buceros homrai, *Hodgs. Icon. ined. in Brit. Mus. Pass.* pls. 311 & 312 (no. 599); *Gray, Zool. Misc.* p. 85 (1831); *Hodgs. J. As. Soc. Beng.* i. p. 251 (1832); *id. As. Res.* xviii. pt. ii. no. xi. p. 162 (1833); *Gray, Gen. B.* ii. p. 349 (1849); *id. Hand-l. B.* pt ii. p. 127, sp. 7871 (1870).

Dichoceros homrai, *Hume, Nests & Eggs Ind. B.* p. 111 (1873); *id. Str. F.* ii. p. 470 (1874); *id. l. c.* iii. p. 55 (1875).

Adult male. Head, chin, throat, back, rump, and breast deep black, also lesser and median upper wing-coverts and under wing-coverts; greater wing-coverts, primaries, and secondaries black, with whitish bases and extremities; tail yellowish white, with a broad subterminal band of black across each feather. Neck buff; upper tail-coverts, belly, thighs, and under tail-coverts whitish.

Naked skin round the eye fleshy pink; eyelid black; iris blood-red; legs and feet dull green; bill and casque yellowish, inclining to orange-red on the top of the casque and towards the point of the upper mandible; basal portion of both mandibles and their cutting-edges black, also the anterior and posterior margins of the casque, the black of the former extending backward along either side in a triangular patch nearly reaching to the nostrils. Total length 52 inches, wing 19·5, tail 15·3, tarsus 2·9.

Adult female does not differ from the adult male in plumage, but the casque is without black marking; bare skin round the eye reddish; iris opalescent white. Total length 49 inches, wing 19·3, tail 15·3, tarsus 2·8.

Immature male and female resemble the adult in plumage, and differ only in the shape of the casque, which is flat and triangular; gradually the lateral ridges appear, the anterior angle disappears, and the casque assumes the subquadrate shape characteristic of the adult.

Hab. Indo-Chinese Countries, Malayan Peninsula, Sumatra.

a, b. ♂ ♀ ad. sk.	Mynall, Travancore, Oct., Nov. (*F. Bourdillon*).	Hume Coll.
c. ♂ ad. sk.	Ratnagiri, S. Konkan, Nov. (*G. Vidal*).	Hume Coll.
d. ♂ ad. st.	Himalayas.	
e–g. ♂ ♀ ad.; ♀ imm. sk.	Kumaon, March (*G. King*).	Hume Coll.

h–k. ♂ ad. et imm. sk.	Nepal.	Hodgson Coll.
l. ♂ ad. sk.	Native Sikhim, March (*L. Mandelli*).	Hume Coll.
m–p. ♂ ad. et imm.; *q–s*. ♀ ad. et imm. sk.	Sikhim, March, April, and July (*L. Mandelli*).	Hume Coll.
t–w. ♂ ad. et imm. sk.	Darjeeling, April & May.	Hume Coll.
x, *y*. ♂ ♀ ad. sk.	N. Khasia Hills, Feb. (*A. W. Chennell*).	Tweeddale Coll.
z. ♂ ad. sk.	Garo Hills (*H. H. Godwin-Austen*).	Tweeddale Coll.
a', *b'*. ♂ ♀ ad. sk.	Naga Hills (*H. H. Godwin-Austen*).	Tweeddale Coll.
c'. ♂ ad. (head only).	Cachar (*J. Inglis*).	Hume Coll.
d', *e'*. ♂ ♀ ad.	Tonghoo, Jan. (*R. G. W. R.*).	Tweeddale Coll.
f'. Imm. sk.	Arrakan Hills, Pegu, June.	E. W. Oates, Esq. [C.].
g'. ♂ ad. sk.	Pegu Hills, April.	E. W. Oates, Esq. [C.].
h'. ♂ ad. sk.	Kollidoo, Tenasserim, Jan. (*W. Davison*).	Hume Coll.
i', *k'*. ♂ ♀ ad. sk.	Pahpoon, Jan., Oct. (*W. Davison*).	Hume Coll.
l'. ♂ ad. sk.	Thoungyeen, Aug. (*C. T. Bingham*).	Hume Coll.
m'. ♂ ad. sk.	Zamee River, Feb. (*C. T. Bingham*).	Hume Coll.
n'. ♂ ad. sk.	N. of Yea, March (*W. Davison*).	Hume Coll.
o', *p'*. ♂ ♀ ad. sk.	Pakchan, Jan. & Feb.	Hume Coll.
q'–u'. ♂ ad. et imm.; *v'*, *w'*. ♀ ad. et imm. sk.	Bankasoon, Feb., Oct., & Dec. (*W. Davison*).	Hume Coll.
x'. ♀ ad. sk.	Malawoon.	Hume Coll.
y', *z'*. ♀ ad. sk.	Tenasserim, Jan. (*W. Lumborg*).	Tweeddale Coll.
a''. ♀ ad. sk.	Tenasserim.	J. D. C. Packman, Esq. [P.].
b''. ♀ ad. sk.	S. Tenasserim.	Oates Coll.
c''. ♀ ad. (head only).	Siam (*Mouhot*).	Gould Coll.
d'', *e''*. ♀ ad. et imm. sk.	Pinang (*Dr. Cantor*).	India Museum.
f'', *g''*. ♂ ad. sk.; ♀ ad. (head only).	Malacca (*Dr. Cantor*).	India Museum.
h''–k''. ♂ ad. sk.; ♀ ad. (head only) et pull.	Sumatra.	Wallace Coll.
l'', *m''*. ♂ ♀ ad. sk.	Sumatra (*Raffles*).	India Museum.

4. HYDROCORAX.

Type.

Hydrocorax, *Briss. Orn.* iv. p. 565 (1760) ..... H. hydrocorax.
Platyceros, *Cab. & Heine, Mus. Hein.* ii. p. 174 (1860) .. H. hydrocorax.

Bill large, strong, and somewhat curved: casque large, boat-

shaped, and flat-topped, extending backwards an inch or more behind the vertical from the eye; the anterior end either considerably elevated, and forming an obtuse angle with the middle of the culmen, or sloping down anteriorly till it becomes almost confluent with it; sides of the throat naked; tail-feathers subequal, uniform white stained with buff; crest moderate, rather hairy; size large.

Range. Philippine Islands.

Key to the Species.

I. Anterior part of casque raised above the culmen.
  a. Bill and casque entirely rose-red..... *hydrocorax*, p. 358.
  b. Anterior half of bill whitish..... *mindanensis*, p. 359.
II. Anterior part of casque not raised above culmen ..... *semigaleatus*, p. 360.

1. Hydrocorax hydrocorax.

Le Calao, *Briss. Orn.* iv. p. 566, pl. xlv. (1760).

Le Calao des Moluques, *Daubent. Pl. Enl.* no. 283; *Buff. Hist. Nat. Ois.* vii. p. 147 (1780).

Philippine Hornbill, var. A, *Lath. Gen. Syn.* i. p. 345 [adult] (1781).

Indian Hornbill, *Lath. Gen. Syn.* i. p. 351 [immature] (1781).

Le Calao Roux, *Levaill. Hist. Nat. d'Ois. l'Amér.* i. p. 13, pl. vi (1801).

Le Calao à Casque Plat, *Levaill. Hist. Nat. Ois. d'Afr.* i. p. 127, pl. 240 (1806).

Buceros hydrocorax, *Linn. Syst. Nat.* i. p. 153 (1766); *Forst. Ind. Zool.* p. 40 (1781); *Gm. S. N.* i. p. 359 (1788); *Lath. Ind. Orn.* i. p. 144 (1790); *Shaw, Gen. Zool.* viii. p. 31 (1811); *Vieill. N. Dict. d'Hist. Nat.* iv. p. 597 (1816); *Temm. Pl. Col.* ii. p. 73, pl. 283 (1824); *Wagl. Syst. Av.* Buceros, no. 7 (1827); *Less. Traité Orn.* p. 254 (1831); *Gray, Gen. B.* ii. p. 399 (1847); *Blyth, Cat. Birds Mus. As. Soc.* p. 43 (1849); *Bonap. Consp. Gen. Av.* i. p. 89 (1850); *Schl. Mus. Pays-Bas*, i. Buceros, p. 2 (1862); *Von Mart. J. f. O.* p. 18 (1866); *Walden, Trans. Z. S.* ix. p. 164 (1873); *Tweed. P. Z. S.* 1877, pp. 543 & 692; *Steere, List Birds & Mamm. Philippines*, p. 13 (1890); *Hartert, Cat. Mus. Senckenb. Frankf.* p. 140 (1891).

Platyceros hydrocorax, *Cab. & Heine, Mus. Hein.* ii. p. 174 (1860).

Buceros (Hydrocorax) hydrocorax, *Gray, Hand-l. B.* pt. ii. p. 128, sp. 7884 (1870); *Dubois, Bull. Mus. Belg.* iii. p. 195 (1884).

Buceros bicornis, var., *Shaw, Gen. Zool.* viii. p. 17 (1811).

Buceros planicornis, *Merrem, Ersch u. Gruber. Encycl.* xiii. p. 287 (1824).

Hydrocorax planicornis, *Bonap. Consp. Vol. Anisod.* p. 2 (1854) *Elliot, Monogr. Bucerot.* pl. vii. [text] (1877).

Buceros platyrhynchus, *Pears. J. As. Soc. Beng.* p. 652 (1841).

Adult male. Upper part of the head, cheeks, chin, and breast black; throat white, shading gradually into the chestnut of the rest of the head, neck, and chest; back, rump, upper tail-coverts, wing-coverts, and two outer secondaries dirty brown, mixed with rufous

in places, the latter edged on both webs with buff; primaries and rest of secondaries black, the latter with a narrow edge of buff on the outer web; thighs rufous; crissum and under tail-coverts bright buff; tail white, but frequently discoloured so as to appear pale buff; the entire casque and bill are blood-red: "naked skin round eye yellow; iris red; feet brownish-red; nails black" (*A. H. Everett*). Total length 37 inches, wing 16, tail 12·7, tarsus 2·3.

Adult female. Similar to the male. Total length 36 inches, wing 15, tail 11·6, tarsus 2·2.

Young. Cheeks and upper parts of head blackish; rest of head and neck, rump, thighs, crissum, and under tail-coverts yellowish white mixed with rufous; breast and belly yellowish white mixed with blackish grey; back, wing-coverts, scapulars, and outer secondaries reddish brown, the wing-coverts tipped and the scapulars and secondaries margined with buff; primaries and rest of secondaries brownish black, margined on the outer web and tipped with buff; basal two-thirds of tail-feathers reddish brown, margined in all except the middle pair with black; bill and casque dark black, except the base of the lower mandible and the extreme tip of the bill, which are blood-red.

Hab. Luzon, Marinduque; Philippine Islands.

a, *b*. ♂ ad. sk.	Monte Alban, Luzon, March (*A. H. Everett*).	Tweeddale Coll.
c–*e*. ♂ ♀ ad. et imm. sk.	Luzon, Feb., April (*A. B. Meyer*).	Tweeddale Coll.
f–*h*. Ad. et imm. st.	Philippines.	H. Cuming, Esq. [P.]

2. Hydrocorax mindanensis.

Buceros mindanensis, *Tweeddale*, *P. Z. S.* 1877, pp. 543 & 823; *ibid.* 1878, p. 278, figs. 1 & 2, & p. 946, & 1879, p. 70; *Sclater*, *Chall.* p. 15, pl. iii. (1880); *Steere*, *List Birds & Mamm. Philippines*, p. 13 (1890).

Hydrocorax mindanensis, *Elliot*, *Monogr. Bucerot.* pl. viii. [text] (1880).

Buceros (Hydrocorax) hydrocorax, var. mindanensis, *Dubois*, *Bull. Mus. Belg.* iii. p. 196 (1884).

Adult male. The plumage does not differ from that of *H. hydrocorax*, and the only differences between the two besides the somewhat smaller size of the present species lie in the shape of the casque, which is only three-quarters as wide as that of *H. hydrocorax*, and the colour of the bill, of which two-thirds of the maxilla and three-quarters of the mandible are white anteriorly; naked skin round eye sooty black, yellow just below the eye, gular skin yellow; iris light yellow (light green in living bird); feet coral-red: nails dark brownish grey (*A. H. Everett*). Total length 31 inches, wing 15·4, tail 12·4, tarsus 2·2.

Adult female. Does not differ from the male. Total length 31 inches, wing 14·6, tail 11·5, tarsus 2·2.

Young. Upper part of head and cheeks black; feathers on chin

and breast white, blackish grey at base; rest of head, neck, rump, belly, flanks, and tail-coverts white mixed with rufous; back, upper wing-coverts, scapulars, and outer secondaries brown, the three latter widely tipped, and the last-named also widely margined on both webs with white; rest of secondaries and primaries blackish brown, with a white margin on the outer web, gradually increasing in width on the outer secondaries; under wing-coverts brownish buff; middle feathers of tail have basal two-thirds brown, and the rest the basal half dull chestnut; the remainder of the feathers white; casque rudimentary; bill black, yellowish at the tip; naked skin round eye and on gular region yellow; legs grey-green (in skin).

Hab. Mindanao, Basilan; Philippine Islands.

a–c. ♂ ♀ ad. sk.	Surigao, May (*A. H. Everett*).	Tweeddale Coll.
d. ♂ ad. sk.	Butuan, May (*A. H. Everett*).	Tweeddale Coll.
e, f. ♂ ad.; ♀ imm. sk.	Zamboanga, March (*A. H. Everett*).	Tweeddale Coll.
g–i. ♂ ♀ ad. et imm. sk.	Zamboanga.	Challenger Exped. (Types of the species.)
k, l. ♂ ♀ ad. sk.	Basilan, May (*A. H. Everett*).	Tweeddale Coll.

3. Hydrocorax semigaleatus.

Buceros semigaleatus, *Tweeddale, P. Z. S.* 1878, p. 279, figs. 3 & 4, pp. 341, 379; *Steere, List Birds & Mamm. Philippines*, p. 13 (1890).
Hydrocorax semigaleatus, *Elliot, Monogr. Bucerot.* pl. ix. [text] (1882).
Buceros (Hydrocorax) hydrocorax, var. semigaleatus, *Dubois, Bull. Mus. Belg.* iii. p. 196 (1884).

Adult male. Scarcely differs in plumage from the last two species, but the white throat instead of shading gradually into the chestnut below, as it does in *H. hydrocorax* and *H. mindanensis*, is sharply defined; the coloration of the casque and bill is the same as in the latter species, and the real claim of the present species to specific distinction lies in the shape of the casque, the front part of which is pointed (like a quill pen) and continuous with the line of the culmen, whereas in both the allied species the anterior end of the casque tapers gradually to a blunt boat-shaped point which rises high above the culmen and joins it at right angles; naked skin round eye darkest sepia, almost black; gular skin dark indian yellow; iris light yellow (light green in living bird); feet coral-red; nails dark brownish grey (*A. H. Everett*). Total length 31 inches, wing 14·8, tail 12, tarsus 2·3.

Adult female. Does not differ in plumage from the male. Total length 31 inches, wing 13·8, tail 11, tarsus 2·1.

Young. Similar to that of *H. mindanensis*, except that the outer tail-feathers have not the basal half chestnut, although the middle feathers are the same.

In older examples of both sexes, when the adult plumage has been nearly attained the bill is *jet-black*, the yellow tip of the young

having disappeared, and the anterior part of the casque is distinctly *raised* above the line of the culmen.

Hab. Samar, Panaon, Leyte; Philippine Islands.

a–d. ♂ ♀ ad. et imm. sk.	S. Leyte, Sept. (*A. H. Everett*).	Tweeddale Coll. (Types of the species.)
e–g. ♂ ♀ ad. et imm. sk.	S. Leyte, Sept.	A. H. Everett, Esq. [C.].
h–k. ♂ ♀ ad. et imm. sk.	Amparo, July, Aug. (*A. H. Everett*).	Tweeddale Coll.
l. ♀ ad. sk.	Panaon, Oct.	A. H. Everett, Esq. [C.].
m. ♂ ad. sk.	Panaon, Oct. (*A. H. Everett*).	Tweeddale Coll.
n–o. Skeleton.	S. Leyte.	A. H. Everett, Esq. [C.].

5. ANTHRACOCEROS.

	Type.
Anthracoceros, *Reich. Syst. Av.* pt. xlix. (1849) ..	A. malabaricus.
Hydrocissa, *Bonap. Consp. Gen. Av.* i. p. 90 (1850).	A. monoceros.
Limnophalus, *Elliot, Mon. Bucerot.* pl. 25 [text] (1872)	A. montani.

Bill large, curved and compressed; casque large or very large, subcrescentic, somewhat swollen posteriorly, and extending an inch or more behind the vertical from the eye; compressed and elevated anteriorly, extending over the basal three-fifths of, and forming an obtuse angle with, the culmen; middle of throat feathered; a wide naked patch of skin on either side; crest moderate; tail wedge-shaped, white (*A. montani*) or with middle pair of tail-feathers black, outer pairs white or black with wide white ends.

Range. Indo-Chinese Countries, Malayan Peninsula, Java, Sumatra, Borneo, and Sooloo.

Key to the Species.

I. Centre pair of tail-feathers black or black tipped with white.

A. Outer pairs of tail-feathers white.

a. Casque with a great black patch extending over the greater part. [p. 362.

a'. Casque black posteriorly ..... *coronatus* ♂,

b'. Casque not black posteriorly ..... *coronatus* ♀, [p. 362.

b. Casque with a moderate black patch situated on the anterior part.

c'. Bill white, with a black patch at the base of the mandibles ..... *convexus* ♂, [p. 364.

d'. Bill black at the extremity; a dull red patch in front of the black at the base of the lower mandible ..... *convexus* ♀, [p. 364.

B. Outer pairs of tail-feathers black with white ends.

c. Breast and belly black. [p. 368.

e'. Eyebrow white ..... *malayanus* ♂,

f'. Eyebrow grey ..... *malayanus* ♀, [p. 368.

d. Breast and belly white.

g'. Size larger. Posterior end of casque and mandibles black, ♂. — *affinis*, p. 366.

h'. Size smaller. Anterior part of bill black; a dull red patch in front of the black at the base of the lower mandible, ♀. — *malabaricus*, [p. 365.

II. Whole tail pure white ..... *montani*, p. 370.

1. Anthracoceros coronatus.

Le Calao des Philippines, *Daubent. Pl. Enl.* pl. 873.

Le Calao de Malabar, *Buff. Hist. Nat. Ois.* vii. p. 149, pl. viii. (1780).

Le Calao de la Côte de Malabar, *Sonn. Voy. Ind. Orient.* ii. p. 215 pl. 121 (1782).

Pied Hornbill, *Lath. Gen. Syn. Suppl.* i. p. 69 (1787).

Green-winged Hornbill, *Lath. Gen. Syn. Suppl.* i. p. 73 (1787).

Le Calao unicorne, *Levaill. Hist. Nat. d'Ois. l'Amér.* i. p. 30, pls. ix., x., xi. (1801).

Le Calao violet, *Levaill. Hist. Nat. d'Ois. l'Amér.* i. p. 39, pl. 19 (1801).

Buceros coronatus, *Bodd. Tabl. Pl. Enl.* p. 53 (1783); *Gray, Gen. B.* ii. p. 399 (1847); *Hartl. J.f. O.* 1859, p. 289; *Schl. Mus. Pays-Bas*, i. Buceros, p. 6 (1862); *Nitz. Pteryl. Ray Soc.* p. 102 (1867); *Garrod, P. Z. S.* 1872, p. 464, & 1873, p. 632, fig. 2.

Hydrocissa coronata, *Horsf. & Moore, Cat. B. Mus. E. Ind. Co.* ii. p. 588 (1856–8); *Cab. & Heine, Mus. Hein.* ii. p. 170 (1860); *Jerd. B. Ind.* i. p. 245 (1862); *Blyth, Ibis*, 1866, p. 349; *Holdsw. P. Z. S.* 1872, p. 425; *Ball, Str. F.* ii. p. 387 (1874), & iii. p. 290 (1875); *Fairb. Str. F.* iv. p. 254 (1876); *Hume, Str. F.* vii. p. 204 (1878); *Butler, Cat. B. S. Bombay Pres.* p. 20 (1880); *Vidal, Str. F.* ix. p. 51 (1880); *Butler, Str. F.* ix. p. 383 (1880); *Davison, Str. F.* x. p. 352 (1883).

Anthracoceros coronatus, *Reich. Syst. Av.* pl. xlix. (1850); *Elliot, Mon. Bucerot.* pl. xi. [text] (1877); *Parker, Str. F.* ix. p. 478 (1880); *id. Ibis*, 1886, p. 184.

Buceros (Hydrocissa) coronatus, *Gray, Hand-l. B.* ii. p. 127, sp. 7872 (1870).

Buceros (Anthracoceros) coronatus, *Dubois, Bull. Mus. Bely.* iii. p. 196 (1884).

Buceros pica, *Scop. Del. Faun. et Flor. Insubr.* ii. p. 87 (1786); *Gray, Gen. B.* ii. p. 399 [part] (1847); *Blyth, J. As. Soc. Beng.* xvi. p. 993 (1847); *Blyth, Cat. B. Mus. As. Soc.* p. 43 (1849); *Tickell, Ibis*, 1864, p. 179; *Eyton, Osteol. Av.* p. 62 (1867).

Hydrocissa pica, *Bonap. Consp. Gen. Av.* i. p. 90 (1850); *id. Consp. Vol. Anisod.* p. 2 (1854).

Buceros malabaricus, var. β and γ, *Lath. Ind. Orn.* i. p. 143 (1790); *Dumont, Dict. Sc. Nat.* vi. p. 205 (1817); *Tickell, J. As. Soc. Beng.* ii. p. 579 (1833); *Jerd. Mad. J.* p. 38 (1840); *Blyth, J. As. Soc. Beng.* xii. p. 993 (1843); *Layard, Ann. Mag. N. H.* (2) xiii. p. 260 (1847).

Buceros dschindschicus, *Lath. et Davis, Faun. Ind.* p. 6 (1795).

Buceros violaceus, *Shaw, Gen. Zool.* viii. p. 18 (1811); *Vieill. N. Dict. d'Hist. Nat.* iv. p. 599 (1816); *Dumont, Dict. Sc. Nat.* vi. p. 211 (1817); *Temm. Pl. Col.* ii. sp. 9 [text] (1823); *Wagl. Syst. Av.* Buceros, no. 9 (1827); *Gray, Gen. B.* ii. p. 399 (1847); *Blyth,*

J. As. Soc. Beng. xviii. p. 803 (1849); *Gray, Hand-l. B.* ii. p. 128, sp. 7878 (1870).

Hydrocissa violaceus, *Bonap. Consp. Gen. Av.* i. p. 90 (1850).

Hydrocissa (Anorrhinus) violaceus, *Bonap. Consp. Vol. Anisod.* p. 2 (1854).

Buceros monoceros, *Shaw, Gen. Zool.* viii. p. 8 (1811); *Temm. Pl. Col.* ii. sp. 11 [text] (1823); *Wagl. Syst. Av.* Buceros, no. 2 (1827); *Beybie, Malay Pen.* p. 513 (1834); *Müll. & Schl. Ver. Ges. Ned. Ind.* p. 22 (1839–44).

Hydrocissa monoceros, *Bonap. Consp. Gen. Av.* i. p. 90 (1850); *id. Consp. Vol. Anisod.* p. 2 (1854).

Adult male. Head, middle of chin and throat, neck, back, rump, upper tail-coverts, wing-coverts, and upper chest deep black glossed with dark greenish blue; primary and secondary quills black with narrow white bases and wide white extremities, except the two first primaries and the last three secondaries, which are black at the extremity; front of shoulders, breast, belly, thighs, and under tail-coverts white; tail with two central rectrices black, sometimes tipped with white, and the rest pure white; casque and bill wax-yellow, the former with a great black patch extending from the anterior end to within one-fifth of the posterior extremity, which is also black; base of mandibles black; naked skin blackish round the eye; gular region kid-white; iris orange-red; legs and feet grey. Total length 37 inches, wing 13·1, tail 12·7, tarsus 2·5.

Adult female resembles the male adult in plumage, and only differs in having the posterior extremity of the casque yellow instead of black, and the naked skin round the eye the same colour as the gular region: "iris brown; legs and feet grey; gular skin kid-white." Total length 33 inches, wing 12·4, tail 12·4, tarsus 2·5.

Young differ from the adult in having the basal half of the outer rectrices black. As maturity is reached this black gradually and irregularly disappears, beginning with the outer pair of feathers; sometimes one of the outer tail-feathers is pure white, while the corresponding one on the other side is still suffused with black at the base.

A specimen from Ceylon with *slightly developed* casque has *all* the outer tail-feathers *pure white*. Wing 11·2 inches, tail 10·9.

Hab. Indian Peninsula and Ceylon.

a–c. Ad. et imm. sk.	Behar.	B. H. Hodgson, Esq. [P.].
d–g. ♂ ♀ ad. sk.	Seoni.	Hume Coll.
h–r. ♂ ♀ ad. et imm. sk.	Raipur, Jan., Dec.	Hume Coll.
s, t. ♂ ♀ ad. sk.	Muddur, Mysore, Jan., July.	W. Davison, Esq. [P.].
u, v. ♂ ♀ ad. sk.	Ratnagiri, Mar., Nov.	Hume Coll.
w. ♂ ad. sk.	S. Konkan, Nov. (*G. Vidal*).	Hume Coll.
x. Ad. sk.	Anjango, Travancore, Dec.	Hume Coll.
y–a'. Ad. et imm. sk.	Ceylon (*H. Nevill*).	Tweeddale Coll.
b'. Skeleton.		

2. Anthracoceros convexus.

Buceros albirostris, *Horsf.* (*nec Shaw*) *Tr. Linn. Soc.* xiii. p. 175 (1822).

Hydrocissa albirostris, *Nicholson*, *Ibis*, 1882, p. 56; *Guillem. P. Z. S.* 1885, p. 406.

Buceros convexus, *Temm. Pl. Col.* ii. p. 82, pl. 530 [♀] (1832); *Gray, Gen. B.* ii. p. 399 (1847); *Motley & Dillw. Nat. Hist. Labuan*, p. 53 (1855); *Schl. Mus. Pays-Bas*, i. Buceros, p. 7 (1862); *Gray, Hand-l. B.* ii. p. 127, sp. 7873 (1870); *Sclater, Rev. List Vert. Anim.* p. 172 (1872); *Snelleman in Veth's Midden-Sumatra*, iv. p. 33 (1887).

Hydrocissa convexa, *Horsf. & Moore, Cat. B. Mus. E. Ind. Co.* ii. p. 591 (1856–8); *Moore, P. Z. S.* 1859, p. 448; *Cab. & Heine, Mus. Hein.* ii. p. 170 (1860); *Salvad. Ucc. Borneo*, p. 80 (1874); *Sharpe, Ibis*, 1877, p. 7, 1879, p. 246; *Hume, Str. F.* vii. p. 366 (1878).

Anthracoceros convexus, *Sharpe, P. Z. S.* 1878, p. 329; *Elliot, Mon. Bucerot.* pl. 12 [text] (1880); *Nicholson, Ibis*, 1883, p. 240; *Hartert, J. f. O.* 1889, p. 368; *Sharpe, Ibis*, 1890, p. 15; *Elliot, Auk*, 1891, p. 9.

Buceros (Anthracoceros) convexus, *Dubois, Bull. Mus. Belg.* iii. p. 197 (1884).

Buceros intermedius, *Blyth, J. As. Soc. Beng.* xvi. p. 995 (1847), xviii. p. 803 (1849); *id. Cat. B. Mus. As. Soc.* p. 43 (1849); *Wall. Ann. Mag. N. H.* (2) xv. p. 98 (1855).

Buceros violaceus, *Hay* (*nec Shaw*), *Madr. Journ.* xiii. p. 148 (1844).

Adult male. Head, middle of chin and throat, neck, back, rump, wing-coverts, upper tail-coverts, and upper breast deep black, more or less glossed with dark bluish green; primary and secondary quills black, with narrow white bases and wide white ends, except the first two primaries and the last three or four secondaries; front of shoulders, lower breast, belly, thighs, and under tail-coverts white; tail with two centre rectrices black, sometimes tipped with white, and the rest pure white: skin round the eye pale cobalt, behind rich white; legs and feet black; eyes rich straw-colour; bill and casque white, a patch on the anterior part of the casque and the base of the mandibles black. Total length 31 inches, wing 12·3, tail 12, tarsus 2·1.

Adult female. Plumage as in adult male. The casque is much smaller, and the black at the anterior extremity extends over the end of the bill and along the cutting-edges: there is a dull red patch in front of the black at the base of the lower mandible. Total length 28 inches, wing 11·4, tail 10·7, tarsus 2.

Young differ from the adult in having the basal half of the outer rectrices black. As they become adult this black gradually disappears, beginning with the outer pair of feathers. Sometimes one of the outer tail-feathers is pure white, while the corresponding one on the other side is still more or less black towards the base. Quite young birds have the casque represented by a raised ridge, devoid of the black patch which characterizes the adult. Young have the bill dark pea-green, feet dark cobalt, eye not so dark as the old birds.

Hab. Malacca, Java, Sumatra, Borneo.

a–d. ♀ ad. imm. et pull. sk.	Pinang (*Dr. Cantor*).	India Museum.
e. Imm. sk.	Malacca (*Dr. Maingay*).	Tweeddale Coll.
f, g. ♂ ad. et imm. sk.	Malacca (*Dr. Cantor*).	India Museum.
h. Imm. sk.	Malacca, July.	Hume Coll.
i. ♂ ad. sk.	Singapore (*A. R. Wallace*).	Tweeddale Coll.
k. ♂ ad. sk.	Rawas River, Sumatra (*H. O. Forbes*).	F. Nicholson, Esq. [P.].
l–q. ♂ ♀ ad. et imm. sk.	Sumatra, Sept., Oct. (*C. Bock*).	Tweeddale Coll.
r. ♂ ad. sk.	Sumatra.	Wallace Coll.
s, t. ♂ ♀ ad. sk.	Labuan (*H. Low*).	R. B. Sharpe, Esq. [P.].
u. ♂ ad. sk.	Labuan.	Purchased.
v–x. ♂ ♀ ad. sk.	Sarawak.	Wallace Coll.
y, z. ♂ ♀ ad. sk.	Lawas River.	Gov. Ussher [C.].
a'. ♀ ad. st.	Borneo.	H. Low, Esq. [C.].
b'–d'. ♂ ♀ ad. et imm. sk.	E. Java.	Wallace Coll.
e'. ♀ ad. sk.	E. Java (*A. R. Wallace*).	Tweeddale Coll.
f'. ♂ ad. sk.	Java.	Tweeddale Coll.
g'. ♂ ad. sk.	Java (*Horsfield*).	India Museum.
h'. Skeleton.		Purchased.

3. Anthracoceros malabaricus.

Pied Hornbill, *Lath. Gen. Syn.* i. p. 349, pl. xi. (1781).

Le Calao à bec blanc, *Levaill. Hist. Nat. d'Ois. l'Amér.* i. p. 29, pl. xiv. (1801).

Buceros malabaricus, *Gm. S. N.* i. p. 359 (1788); *Lath. Ind. Orn.* i. p. 143 (1790); *Vieill. N. Dict. d'Hist. Nat.* iv. p. 599 (1816); *Raffl. Tr. Linn. Soc.* xiii. p. 291 (1822); *Merrem, Ersch u. Gruber, Encycl.* xiii. p. 285 (1824); *Temm. Pl. Col.* ii. sp. 11 [text] (1824); *Less. Traité Orn.* p. 254 (1831); *McClell. P. Z. S.* 1839, p. 164; *Müll. & Schl. Verh. Ges. Ned. Ind.* iv. pp. 22, 28 (1839–44).

Anthracoceros malabaricus, *Elliot, Mon. Bucerot.* pl. 13 [text] (1877).

Buceros (Anthracoceros) malabaricus, *Dubois, Bull. Mus. Belg.* iii. p. 197 (1884).

Buceros albirostris, *Shaw & Nodd. Nat. Misc.* xix. pl. 809 (1790–1813); *Shaw, Gen. Zool.* viii. p. 18 (1811); *Vieill. N. Dict. d'Hist. Nat.* iv. p. 590 (1816); *Merrem, Ersch u. Gruber, Encycl.* xiii. p. 282 (1824); *Wagl. Syst. Av.* Buceros, no. 11 (1827); *Blyth, J. As. Soc. Beng.* xii. pt. ii. p. 995 (1843), xvi. p. 994 (1847); *id. Cat. B. Mus. As. Soc.* xviii. pp. 43, 803 (1849); *Schl. Mus. Pays-Bas*, i. Buceros, p. 6 (1862); *Blyth, Ibis*, 1864, p. 412; *Gray, Hand-l. B.* ii. p. 128, sp. 7874 (1870).

Buceros (Hydrocissa) albirostris, *Tickell, Ibis*, 1864, p. 179.

Hydrocissa albirostris, *Horsf. & Moore, Cat. B. Mus. E. Ind. Co.* ii. p. 589. (1856–8); *Cab. & Heine, Mus. Hein.* ii. p. 171 (1860); *Jerd. B. Ind.* i. p. 247 (1862); *Schl. Mus. Pays-Bas*, i. Buceros, p. 6 (1862); *Blyth, Ibis*, 1866, p. 351; *Blanford, Ibis*, 1870, p. 466; *Jerd. Ibis*, 1872, p. 5; *Hume, Str. F.* ii. p. 470 (1874); *Blyth, B. Burma*, p. 68 (1875); *Sharpe, P. Z. S.* 1875, p. 102; *Hume, Str. F.* iii. p. 55 (1875); *Ball, Str. F.* iii. p. 290 (1875); *Blyth & Wald. J. As. Soc. Beng.* xliv. extra no. p. 68 (1875); *Sharpe, P. Z. S.* 1875, p. 102; *Hume, Str. F.* v. p. 20 (1877); *Bingham, Str. F.* v. p. 84 (1877); *Wardlaw Ramsay, Ibis*, 1877, p. 455;

Hume & Dav. Str. F. vi. p. 100 (1878); *Hume, Str. F.* vii. p. 204 (1878); *Anderson, Zool. Exp. W. Yunnan*, ii. p. 577 (1878); *Oates, Str. F.* vii. p. 46 (1878); *Sharpe, Ibis*, 1879, p. 246; *Bingham, Str. F.* viii. p. 462 (1879), ix. p. 158 (1880); *Oates, Str. F.* x. p. 189 (1882); *Hume, Str. F.* xi. p. 51 (1888).

Anthracoceros albirostris, *Oates, B. Brit. Burmah*, ii. p. 90 (1883); *id. Hume's Nests & Eggs Ind. B.* iii. p. 72 (1890).

Buceros nigralbus, *Hodgs. Icon. ined. in Brit. Mus.* Passeres, *App.* pl. 32 (no. 666); *Gray, Zool. Misc.* p. 85 (1831).

Buceros leucogaster, *Blyth, J. As. Soc. Beng.* x. p. 922 (1841), xii. p. 177 (1843).

Buceros pica, *Gray, Gen. B.* ii. p. 399 [part.] (1847).

Buceros affinis (*Hutton*), *Blyth, J. As. Soc. Beng.* xviii. p. 803 (1849); *id. Cat. Mus. As. Soc.* p. 43 (1849); *Gray, Hand-l. B.* ii. p. 128, sp. 7875 (1870).

Hydrocissa affinis, *Jerd. B. Ind.* i. p. 247 (1862); *Blyth, Ibis*, 1866, p. 349; *Hume, Str. F.* vii. p. 205 (1878).

Hydrocissa coronata, *Godwin-Austen, J. As. Soc. Beng.* xiv. p. 95 (1875).

Anthracoceros fraterculus, *Elliot, Ann. Mag. N. H.* (5) i. p. 85 (1878); *id. Mon. Bucerot.* pl. xiv. [text] (1882).

Himalayan Race (*A. affinis*).

Adult male. Head, middle of chin and throat, neck, back, rump, upper tail-coverts, wing-coverts, and upper chest black glossed with dark bluish green; primary and secondary quills black, with narrow white bases and wide white extremities, except the first two primaries and last three or four secondaries, which are black at the extremity; front of shoulders, breast, belly, thighs, and under tail-coverts white; two centre tail-feathers black, tipped with white, lateral feathers with about the last quarter pure white: casque and bill light yellow; anterior extremity of the former with a large black blotch extending onto the maxilla, posterior extremity black, also base of mandibles and cutting-edges; naked skin round eye and on gular region "sickly white:" iris reddish brown; legs and feet dark plumbeous (*G. King*). Total length 33 inches, wing 12·5, tail 12, tarsus 2·2.

Adult female similar to the male in plumage. It differs in the coloration of the bill, the black patch on the anterior of the casque extending not only on to the maxilla but being continued to its extremity: a reddish-brown patch in front of the black at the base of the lower mandible: "iris reddish brown; legs and feet plumbeous" (*G. King*). Total length 28 inches, wing 11·3, tail 11·2, tarsus 2.

Young differ from the adults only in size and in the smaller size of the casque, which is paler yellow and has much less black about it; the naked skin on the face is pale pinkish, with a bluish tinge.

a. ♂ ad. sk.	Indian Archipelago.	Hardwicke Bequest.
b–r. ♂ ♀ ad. et imm. sk.	Dehra Dhoon, Jan., Feb., Dec. (*G. King*).	Hume Coll.
s, t. Imm. sk.	Mussooree.	Hume Coll.
u–w. ♂ ♀ ad. sk.	Siwalik, March (*Scott*).	Tweeddale Coll.

x. ♀ imm. sk.	Siwalik, June.	Hume Coll.
y. ♀ ad. sk.	Gurgaon, March (*W. N. Chill*).	Hume Coll.
z–*b'*. ♂ ♀ ad. et imm. sk.	Nepal.	B. H. Hodgson, Esq. [P.].
c', *d'*. ♂ ad. et imm. sk.	Nepal (*B. H. Hodgson*).	India Museum.
e'–*g'*. ♂ ad. et imm. sk.	Darjeeling.	Hume Coll.
h'. ♂ ad. sk.	Sikhim.	Hume Coll.
i'–*l'*. ♂ ♀ ad. et imm. sk.	Bhotan Doars, Feb., Dec. (*L. Mandelli*).	Hume Coll.
m'. ♂ imm. sk.	Dibrughur, Assam, Jan. (*J. R. Cripps*).	Hume Coll.
n'–*q'*. ♂ ♀ ad. sk.	Assam (*J. McClelland*).	India Museum.
r'. ♂ ad. sk.	Naga Hills (*H. H. Godwin-Austen*).	Tweeddale Coll.
s'–*v'*. ♂ ♀ ad. sk.	N. Khasia Hills, Jan., March, Dec. (*A. W. Chennell*).	Tweeddale Coll.
w', *x'*. ♂ imm. sk.	Cachar (*J. Inglis*).	Hume Coll.
y'. ♀ ad. sk.	Midnapur.	Hume Coll.
z'. ♀ ad. sk.	Dacca.	Hume Coll.
a''. ♂ ad. sk.	Kyouk Phyou, April (*J. Armstrong*).	Hume Coll.
b''. Imperfect skeleton.	Nepal.	B. H. Hodgson, Esq. [P.].
c''. Skeleton.	India.	Eyton Coll.
d''. Skeleton.		Zool. Soc. Coll.

Burmese Race (*A. malabaricus*).

Identical in coloration to the Himalayan bird, from which it can only be distinguished by its smaller size.

Adult male. Total length 29 inches, wing 10·7, tail 10·2, tarsus 1·9.

Adult female. Total length 26 inches, wing 9·9, tail 8·8, tarsus 1·8.

Hab. Burma, Tenasserim, Siam, and Cochin China.

A nearly adult male specimen from Siam is identical with Elliot's *Anthracoceros fraterculus*; the black blotch on the casque does not extend on to the maxilla, and the size and other details agree. He states that he has seen a series of specimens from Siam in the Paris Museum, and that these cannot be separated from Indian examples, from which they differ in size. The Siam specimen mentioned above is precisely the same as Tenasserim examples, and differs only from them in the bill being whiter; but in another fully adult male specimen from the same country, as also in specimens from Cochin China, even this difference is not apparent.

a–*g*. ♂ ♀ ad. sk.	Tonghoo, Jan., April, Dec. (*R. G. W. R.*).	Tweeddale Coll.
h, *i*. ♂ ad. sk.	Tonghoo, March.	E. W. Oates, Esq. [C.].
j–*m*. ♂ ♀ ad. sk.	Tonghoo (*Lloyd*).	Tweeddale Coll.
n. ♂ ad. sk.	Kareen Hills, Sept. (*R. G. W. R.*).	Tweeddale Coll.
o–*q*. ♂ ♀ ad. sk.	Rangoon, March.	Hume Coll.

r. ♂ ad sk.	Rangoon, Dec. (*R. G. W. R.*).	Tweeddale Coll.
s–u. ♀ ad. et imm. sk.	Arrakan Hills.	Hume Coll.
v, *w*. ♀ ad. et imm. sk.	Pegu.	E. W. Oates, Esq. [C.].
x. ♀ ad. sk.	Pegu.	W. T. Blanford, Esq. [P.].
y. ♂ ad. sk.	Pegu, March (*E. W. Oates*).	Hume Coll.
z–b'. ♂ ♀ ad. sk.	Pahpoon, Jan., Feb., Dec. (*W. Davison*).	Hume Coll.
c'. ♂ imm. sk.	Salween Dist., Dec. (*W. D.*).	Hume Coll.
d', *e'*. ♂ ♀ imm. sk.	Salween River, Aug. (*R. C. Beavan*).	Tweeddale Coll.
f'. ♀ ad. sk.	Thoungyeen River, Oct.	C. T. Bingham, Esq. [C.].
g'. ♀ ad. sk.	Thoungyeen River, March (*C. T. Bingham*).	Hume Coll.
h', *i'*. ♀ ad. sk.	Kaukaryit, Sept., Oct. (*J. Darling*).	Hume Coll.
k'–m'. ♂ ♀ ad.et imm. sk.	Thatone, Jan., Dec. (*W. Davison*).	Hume Coll.
n'. ♀ imm. sk.	Assoon, March (*W. D*).	Hume Coll.
o'. ♂ ad. sk.	Assoon, Feb. (*W. Limborg*).	Tweeddale Coll.
p'. ♂ ad. sk.	Meetan, Feb. (*W. Davison*).	Hume Coll.
q'. ♂ ad. sk.	Karope, March (*W. D.*).	Hume Coll.
r'. ♂ ad. sk.	Meeta Myo, April (*W. D.*).	Hume Coll.
s'–b''. ♂ ♀ ad. et imm. sk.	Amherst, Jan., Feb., March, July, Dec. (*W. D.*).	Hume Coll.
c''. ♂ ad. sk.	N. of Yea, March (*W.D.*).	Hume Coll.
d'', *e''*. ♂ ad. et ♀ imm. sk.	Tavoy, March.	Hume Coll.
f''. ♀ ad. sk.	Malawoon, Feb.	E. W. Oates, Esq. [C.].
g''. ♀ ad. sk.	Bankasoon, Dec. (*W. Davison*).	Hume Coll.
h''. ♂ ad. sk.	Pakchan, Jan. (*W. D.*).	Hume Coll.
i''–l''. ♂ ♀ ad. sk.	Mergui, Nov. (*W. D.*).	Hume Coll.
m''. ♂ ad. sk.	Tenasserim Town, Nov. (*W.D.*).	Hume Coll.
n''. ♂ ad. sk.	Meklong, Siam.	H. C. V. Hunter, Esq. [P.].
o''. ♂ ad. sk.	Siam.	Purchased.
p'', *q''*. ♂ ♀ ad. sk.	Cochin China.	M. St. Pierre [P.].
r''. ♂ ad. st.	Indian Archipelago.	
s''. Skeleton.	Malacca.	Salvin-Godman Coll.

4. **Anthracoceros malayanus.**

Buceros malayanus, *Raffl. Tr. Linn. Soc.* xiii. p. 292 (1822); *Temm. Pl. Col.* ii. p. 84 (1832); *Müll. & Schl. Ver. Ges. Ned. Ind.* pp. 23 & 29 (1839–44); *Hay, Madr. J.* xiii. p. 151 (1844); *Gray, Gen. B.* ii. p. 399 (1847); *Blyth, J. As. Soc. Beng.* xvi. p. 995 (1847); *id. Cat. B. Mus. As. Soc.* p. 43 (1840); *Wall. Ann. Mag. N. H.* xv. p. 98 (1855); *Schl. Mus. Pays-Bas*, i. Buceros, p. 7 (1862); *Blyth, Ibis*, 1866, p. 352; *Gray, Hand-l. B.* ii. p. 128, sp. 7879 (1870); *Sclat. List Vert. Anim.* p. 225 (1877).

Hydrocissa malayana, *Bonap. Consp. Gen. Av.* i. p. 90 (1850); *Horsf.*

& Moore, Cat. B. Mus. E. Ind. Co. ii. p. 592 (1856–58); *Moore, P. Z. S.* 1859, p. 448; *Cab. & Heine, Mus. Hein.* ii. p. 170 (1860); *Kelham, Ibis*, 1881, p. 384; *Nicholson, Ibis*, 1882, p. 56.

Hydrocissa (Anorrhinus) malayanus, *Bonap. Consp. Vol. Anisod.* p. 2 (1854).

Anthracoceros malayanus, *Elliot, Mon. Bucerot.* pl. 15 [text] (1877); *Sharpe, Ibis*, 1890, p. 16.

Buceros (Anthracoceros) malayanus, *Dubois, Bull. Mus. Belg.* iii. p. 198 (1884).

Buceros antracicus, *Temm. Pl. Col.* ii. p. 80, pl. 529 (1824).

Buceros antarcticus, *Swains. Class. B.* ii. p. 296 (1837).

Buceros bicolor, *Eyton, P. Z. S.* 1839, p. 104; *Blyth, J. As. Soc. Beng.* xii. pt. ii. p. 599 [♀] (1843).

Hydrocissa (Anthracoceros) bicolor, *Bonap. Consp. Vol. Anisod.* p. 2 (1854).

Buceros elliotti, *Hay, Madr. J.* xiii. pt. ii. p. 152 [♀] (1844); *Blyth, J. As. Soc. Beng.* xvi. p. 995 (1847).

Buceros nigrirostris, *Blyth, J. As. Soc. Beng.* xvi. p. 995 (1847), xviii. p. 803 [♀] (1849); *id. Cat. B. Mus. As. Soc.* p. 44 (1849); *Wall. Ann. Mag. N. H.* xv. p. 98 (1855); *Gray, Hand-l. B.* ii. p. 128, sp. 7881 (1870).

Hydrocissa nigrirostris, *Horsf. & Moore, Cat. B. Mus. E. Ind. Co.* ii. p. 593 (1856–58); *Moore, P. Z. S.* 1859, p. 449.

Adult male. Whole plumage black, with the exception of a wide white superciliary stripe which commences above the eye and extends to the occiput, and the last third of the four outer tail-feathers on either side, which is pure white; the upper parts are glossed with dark greenish blue: casque and mandibles yellowish white, the posterior extremity of the former and the base of the latter black; *the nostril is surrounded by black*; bare skin round the eye and on the throat whitish blue; eyes reddish brown; legs and feet black. Total length 32 inches, wing 12·5, tail 13·3, tarsus 2.

Adult female. Differs only from the male in having the superciliary stripe *dark grey* instead of white: naked space round eyes livid: "iris greyish brown; feet black" (*Cantor*). Wing 12·2 inches, tail 12·3, tarsus 1·8.

In less mature specimens the size is smaller but the plumage is as above, and the *bill and casque* in both sexes are *blackish brown*, black towards the base; bare skin round eye and on the throat fleshy pink; iris crimson-lake; legs, feet, and claws black. Total length 30 inches, wing 12·4, tail 11·8, tarsus 1·9.

In still younger specimens the bill and rudimentary casque are white, or black and white, and the white terminal part of the four outer pairs of tail-feathers is spotted and mottled with black, some feathers being occasionally quite black.

Hab. Malayan Peninsula, Sumatra, Borneo.

a. ♀ ad. sk.	Province Wellesley (*Dr. Cantor*).	India Museum.
b. ♀ imm. sk.	Kuroo (Native State), Nov. (*W. Davison*).	Hume Coll.
c–e. ♂ ♀ ad. et imm. sk.	Malacca, July.	Hume Coll.
f. ♂ ad. st.	Malacca.	H. Cuming, Esq. [C.].
g, h. ♂ ad. sk.	Malacca.	Capt. S. Pinwill [P.].

i–*m*. ♂ ♀ imm. sk.	Malacca (*Dr. Maingay*).	Tweeddale Coll.
n–*q*. ♂ ad. et imm. sk.	Malacca.	Wallace Coll.
r, *s*. ♂ ♀ imm. sk.	Malacca (*A. R. Wallace*).	Tweeddale Coll.
t, *u*. ♂ ♀ imm. sk.	Malacca.	India Museum.
v–*x*. ♀ ad. et ♂ ♀ imm. sk.	Malacca (*Dr. Cantor*).	India Museum.
y. ♀ ad. sk.	Sumatra.	Wallace Coll.
z–*e'*. ♂ ♀ ad. et imm. sk.	Sumatra, Sept., Oct. (*C. Bock*).	Tweeddale Coll.
f', *g'*. ♀ ad. et imm. sk.	Lawas River, N.W. Borneo (*Gov. Ussher*).	Tweeddale Coll.
h'–*j'*. ♀ imm. sk.	Lawas River, N.W. Borneo (*Treacher*).	R. B. Sharpe, Esq. [P.].
k'. ♀ ad. sk.	Baram.	C. Hose, Esq. [C.].
l'. ♂ ad. sk.	Kina Balu.	J. Whitehead, Esq. [P.].
m', *n'*. ♂ imm. sk.	Billiton.	Tweeddale Coll.
o'–*q'*. ♀ ad. et imm. sk.	Indian Archipelago.	
r'–*u'*. ♂ ♀ ad. et imm. sk.	No locality.	
v'. Imm. skeleton.		

5. Anthracoceros montani.

Buceros montani, *Oust. Bull. Hebd. Assoc. Scien. Fr.* p. 205 (1880).
Limnophalus montani, *Elliot*, *Mon. Bucerot.* pl. 25 [text] (1882).
Buceros (Limnophalus) montani, *Dubois*, *Bull. Mus. Belg.* iii. p. 199 (1884).

Appears from Elliot's figure to belong to a species most nearly allied to *A. malayanus*, and to be an immature bird in the middle stage in which the bill and casque are black. It differs from *A. malayanus* in having the tail pure white and the superciliary region black. Total length is said to be about 32 inches.

Hab. Sooloo.

6. GYMNOLÆMUS.

Bill large and curved. Casque as in *Anthracoceros*, but more compressed from above. Throat naked. Tail-feathers subequal. Crest fairly developed.

Range. Palawan.

1. Gymnolæmus marchii.

Anthracoceros marchii, *Oustalet*, *Le Nat.* 1885, p. 108 [read 20th April].
Anthracoceros lemprieri, *Sharpe*, *P. Z. S.* 1885, p. 446, pl. xxvi. [read 5th May]; *id. Ibis*, 1888, p. 198, 1890, p. 45.

Adult male. Entire plumage black with the exception of the

tail, which is white; the upper parts are glossed with dark bluish green: casque and bill yellowish white, the only black patch being at the base of the lower mandible; bare skin round the eye and on the throat reddish yellow (in skin); legs and feet blackish. Total length 28 inches, wing 11·8, tail 9·4, tarsus 2·2.

Adult female. Resembles the male, but the casque is less developed and the size smaller. Total length 24 inches, wing 10·4, tail 8·5, tarsus 2·1.

Hab. Palawan.

a. ♂ ad. sk.	Palawan.	M. Lemprière [C.]. (Type of *Anth. lemprieri*, Sharpe.)
b, c. ♀ ad. et imm. sk.	Palawan.	M. Lemprière [C.].

7. PENELOPIDES.

Type.
Penelopides, *Reich. Syst. Av.* pl. xlix. (1849) ..... P. panini.

Bill fairly large and curved. Casque moderate, compressed, and somewhat elevated, covering the basal three fifths of the culmen and not extending over the skull. Basal half of both mandibles covered with a plate, and either or both transversely grooved. Tail subequal, white (stained rufous), with wide black ends or entirely black. Crest moderate.

Range. Celebes and the Philippine Islands.

Key to the Species.

I. Belly rufous; base of both mandibles with grooved plates ..... *panini* ♂, p. 372.
II. Belly white tinged with buff.
  a. Base of both mandibles with grooved plates; tail black, with a wide band of white (stained rufous) across the middle, upper parts brownish black ..... *manillæ* ♂, p. 373.
  b. Base of upper mandible only with grooved plate; tail with no black at the base, upper parts brownish black glossed with green ..... *mindorensis* ♂*, p. 374.
  c. Base of lower mandible only with grooved plate; upper parts black glossed with green; tail with some black at the base.
    a'. Upper tail-coverts black.
      a''. A black patch on the basal half of the upper mandible ..... *affinis* ♂, p. 375.
      b''. Upper mandible flesh-coloured to the base ..... *basilanica* ♂, p. 375.
    b'. Upper tail-coverts white tinged with buff, like underparts; a black patch on the basal half of upper mandible .... *samarensis* ♂, p. 376.

* The British Museum does not possess a female of this species, but Professor Steere, in his 'List of the Birds and Mammals,' p. 13, says the females differ only from the males in having the bare skin round the eye and at the base of the mandibles dark blue instead of flesh-coloured!

III. Belly black.
d. Tail uniform black.
c'. Throat and cheeks white ..... *exaratus* ♂, p. 376.
d'. Throat and cheeks black ..... *exaratus* ♀, p. 376.
e. Tail black, with a rufous band about an inch wide across the middle; base of both mandibles with grooved plates.... *manillæ* ♀, p. 373.
f. Tail rufous, widely tipped with black and more or less black at the base.
e'. Base of both mandibles with grooved plates; black at base of tail almost obsolete..... *panini* ♀, p. 372.
f'. Base of lower mandible only with grooved plate; black at base of tail-feathers marked ..... *affinis* ♀, p. 375. *basilanica* ♀, p. 375. *samarensis* ♀, p. 376.

1. Penelopides panini.

Le Calao de l'Isle Panay, *Daubent. Pl. Enl.* no. 780 [♀], no. 781 [♂]; *Buff. Hist. Nat. Ois.* vii. p. 145 (1780).
Le Calao mâle à bec ciselé de l'Isle Panay [♀], pl. 82, *et* Le Calao femelle etc. [♂], pl. 83; *Sonn. Voy. Nouv. Guin.* p. 122 (1776).
Panayan Hornbill, *Lath. Gen. Syn.* i. p. 353 (1781).
Le Calao à bec ciselé, *Levaill. Hist. Nat. d'Ois. l'Amér.* i. p. 35, pls. xvi. & xvii. (1801).
Buceros panini, *Bodd. Tab. Pl. Enl.* p. 48 (1783); *Gray, Gen. B.* ii. p. 400 [part.] (1847); *Eyton, Osteol. Av.* p. 63 (1867).
Penelopides panini, *Cab. & Heine, Mus. Hein.* ii. p. 168 [part.] (1860); *Walden, Tr. Z. S.* ix. p. 166, pl. xxviii. fig. 1 ♂, fig. 2 ♀ (1875); *Elliot, Monogr. Bucerot.* pl. 21 [text] (1877); *Steere, List Birds & Mamm. Philippines*, p. 13 (1890).
Buceros (Penelopides) panini, *Von Martens, J. f. O.* p. 18 (1866); *Gray, Hand-l. B.* ii. p. 129, sp. 7892 (1870).
Buceros panayensis, *Scop. Del. Faun. et Flor. Insubr.* ii. p. 87 (1786); *Gm. S. N.* i. p. 360 (1788); *Lath. Ind. Orn.* i. p. 144 (1790); *Shaw, Gen. Zool.* viii. p. 33 (1811); *Vieill. N. Dict. d'Hist. Nat.* iv. p. 594 (1816); *Temm. Pl. Col.* ii. sp. 12 (1824); *Merrem, Ersch u. Gruber, Encycl.* p. 287 (1824).
Penelopides panayensis, *Bonap. Consp. Vol. Anisod.* p. 3 (1854).
Buceros insculptus, *Dumont, Dict. Sc. Nat.* vi. p. 209 (1817).
Buceros sulcirostris, *Wagl. Syst. Av.* Buceros, no. 13 [♂ ♀] (1827).
Tockus sulcirostris, *Bonap. Consp. Gen. Av.* i. p. 91 (1850).
Penelopides sulcirostris, *Bonap. Consp. Vol. Anisod.* p. 3 (1854).
Buceros (Penelopides) manillæ, var. panini, *Dubois, Bull. Mus. Belg.* iii. p. 211 (1884).

Adult male. Top of the head, neck, and breast buffy white; cheeks, ear-coverts, and feathered part of throat black; wings and back black glossed with dark green; belly rufous; rump, upper tail-coverts, thighs, vent, and under tail coverts bright chestnut; tail rufous-buff, with a wide terminal black band glossed with green: naked skin round eye and on chin and throat flesh-colour; bill and casque deep red, the base of the upper mandible with seven transverse, that of the lower with five oblique ridges separated by yellow grooves. Total length 23·5 inches, wing 10·3, tail 9, tarsus 2.

Adult female. Head, neck, and underparts dull black; back, rump, upper tail-coverts, and wings black, glossed with dark green; tail like that of the male, but the outer web of the outside feather is slightly black to the base; naked skin round the eye and on the chin and throat purplish. Total length 22 inches, wing 9·9, tail 7·7, tarsus 1·7.

Young female (without casque and only one ridge developed on the base of the upper mandible). Differs from the adult in having the upper tail-coverts chestnut and the middle of the basal part of the tail-feathers with more black; naked skin round eye and on throat white faintly tinged with bluish; iris dull chestnut-brown; feet dark lead-grey with faint greenish cast, nails black; bill brown, with olive-green tinge (*A. H. Everett*).

Hab. Guimaras, Panay, Negros, Masbate, Philippine Islands.

a–d. ♂ ♀ ad. sk.	Guimaras, March (*A. B. Meyer*).	Tweeddale Coll.
e. ♀ imm. sk.	Valencia, Aug. (*A. H. Everett*).	Tweeddale Coll.

2. **Penelopides manillæ.**

Le Calao de Manille, *Daubent. Pl. Enl.* no. 891; *Buff. Hist. Nat. Ois.* vii. p. 144 (1780).

Manilla Hornbill, *Lath. Gen. Syn.* i. p. 354 (1781).

Le Calao à bec ciselé, *Levaill. Hist. Nat. d'Ois. l'Amér.* i. p. 35 pl. xviii. (1801).

Buceros manillæ, *Bodd. Tabl. Pl. Enl.* p. 54 (1783).

Penelopides manillæ, *Walden, Tr. Z. S.* ix. p. 168 (1875); *id. P. Z. S.* 1877, p. 692; *Elliot, Monogr. Bucerot.* pl. 20 [text] (1878); *Steere, List Birds & Mamm. Philippines*, p. 13 (1890).

Buceros (Penelopides) manillæ, *Dubois, Bull. Mus. Belg.* iii. p. 210 (1884).

Buceros manillensis, *Gm. S. N.* i. p. 361 (1788); *Lath. Ind. Orn.* i. p. 145 (1790); *Vieill. N. Dict. d'Hist. Nat.* iv. p. 596 (1816); *Dumont, Dict. Sc. Nat.* vi. p. 208 (1817); *Meyen, Nov. Act. Ac. C. L.-C. Nat. Cur.* xvi. Suppl. prim. p. 91, pl. xiii. [♂ ad.] (1834); *Schl. Mus. Pays-Bas*, Buceros, p. 11 (1862).

Buceros sulcirostris, *Wagl. Syst. Av.* Buceros, no. 13 [juv. viril.] (1827).

Buceros panini, *Gray, Gen. B.* ii. p. 400 [part.] (1847); *v. Martens, J. f. O.* 1866, p. 18.

Penelopides panini, *Cab. & Heine, Mus. Hein.* ii. p. 168 [part.] (1860).

Buceros panayensis, *Blyth (nec Scop.), J. As. Soc. Beng* xvi. p. 997 (1847).

Adult male. Top of the head and neck yellowish white; cheeks, ear-coverts, and feathered part of throat black; back, rump, upper tail-coverts, and wings brown more or less glossed with dull green, most of the primaries, the secondaries, and their coverts narrowly margined with buff on the outer web; breast, belly, thighs, and under tail-coverts white tinged with buff; the basal half of the tail is dark brown, and succeeded by a wide white band (stained rufous) followed by a terminal black band glossed with green; the outer web of the outer tail-feathers is uniform black: naked skin

round eye and on chin and throat white; iris crimson; feet and nails dull black; casque transparent horn-brown; bill dark brown; the base of the upper mandible with five transverse, that of the lower with about four oblique ridges separated by ochre grooves. Total length 20·7 inches, wing 9·2, tail 7·4, tarsus 1·7.

Young male differs from the adult in having the upper tail-coverts chestnut and the buff edges to the quills and coverts much wider.

Adult female. Head and neck very dark brown; back, rump, upper tail-coverts, and wings dark brown glossed with dull green; underparts brownish grey, tinged with buff on the breast; tail as in the male adult; naked skin round eye and on chin and throat purplish: iris brown; legs and feet dull black; bill and casque as in the male. Total length 19 inches, wing 8·7, tail 7·3, tarsus 1·6.

Young female with half-developed casque differs from the adult in having the underparts buff, edges of both the webs of the tail-feathers margined with brown, and the upper tail-coverts and the ends of the feathers suffused with bright buff.

Hab. Luzon, Marinduque, Cataguan, Philippine Islands.

a. ♂ ad. sk.	Monte Alban, Luzon, Feb. (*Everett*).	Tweeddale Coll.
b–e. ♂ ♀ ad. et imm. sk.	Luzon, Jan., Feb. (*Meyer*).	Tweeddale Coll.
f–i. ♂ ♀ ad. et imm. sk.	Manilla (*Maitland-Heriot*).	Tweeddale Coll.
k–m. ♂ ♀ ad. et imm. st.	Cataguan.	H. Cuming, Esq. [C.].
n–p. ♂ ♀ ad. et imm. sk.	Philippine Islands.	Tweeddale Coll.
q. ♀ ad. sk.	Philippine Islands.	H. Cuming, Esq. [C.].
r. ♀ ad. st.	Malabar (!).	Mrs. Spinks [P.].

3. Penelopides mindorensis.

Penelopides mindorensis, *Steere, List Birds & Mamm. Philippines*, p. 13 (1890); *Hartert, Cat. Mus. Senckenb. Frankf.* p. 252 (1891).

Penelopides affinis schmackeri, *Hartert, Cat. Mus. Senckenb. Frankf.* p. 139 (1891).

Adult male. Is most nearly allied to *P. panini*, but differs from that species in having the belly and under tail-coverts white, the rump and upper tail-coverts black glossed with green, like the rest of the back, and the upper mandible only with transversely grooved basal plates. From *P. manillæ* and *affinis* it differs (and resembles *P. panini*) in having no black at the base of the tail. Total length 22·5 inches, wing 9·7, tail 8, tarsus 1·7.

Hab. Mindoro, Philippine Islands.

a. ♂ ad. sk.	Manilla (?).	Tweeddale Coll.
b. ♂ ad. sk.	Mindoro, June (*Bourns*).	Steere Expedition.
c. ♂ ad. sk.	Mindoro.	Steere Expedition.

4. Penelopides affinis.

Penelopides affinis, *Tweedd. Ann. Mag. N. H.* (4) xx. p. 534 (1877); *id. P. Z. S.* 1877, p. 824, fig. 1; *id. P. Z. S.* 1878, p. 947; *Elliot, Mon. Bucerot.* pl. 22 [text part] (1881).

Buceros (Penelopides) manillæ, var. affinis, *Dubois, Bull. Mus. Belg.* iii. p. 211 [part.] (1884).

Adult male. Top of the head and neck yellowish white; cheeks, ear-coverts, and feathered part of throat black; back, rump, upper tail-coverts, and wings black glossed with dark green; breast, belly, thighs, and under tail-coverts white tinged with buff; tail white (stained rufous), with a wide terminal black band and some black at the base of the feathers, sometimes a band nearly as wide as at the extremity: naked skin round eye and on chin and throat white; iris crimson; feet greenish lead, nails greyish black; basal half of bill and casque dark brown; rest of bill pale brown; base of the lower mandible with three or four obliquely transverse yellow ridges separated by dark brown grooves (*A. H. Everett*). Total length 19·7 inches, wing 9·3, tail 7·7, tarsus 1·6.

Young male (with undeveloped casque) differs from the adult in having the upper tail-coverts chestnut and the black band across the end of the tail suffused with rufous.

Adult female. Head, neck, and underparts dull black; back, rump, upper tail-coverts, and wings black glossed with dark green; tail resembles that of the male: naked skin round eye and on chin and throat dark blue; iris crimson; feet dark greenish leaden (*A. H. Everett*). Bill and casque brown, base of lower mandible with indistinct obliquely transverse grooves. Total length 19 inches, wing 8·6, tail 6·9, tarsus 1·6.

Young female (with undeveloped casque) differs from the adult in having chestnut upper tail-coverts and the black band across the end of the tail suffused with rufous.

Hab. Mindanao, Philippine Islands.

a–c. ♂ ♀ ad. et imm. sk.	Surigao, Mindanao, May (*Everett*).	Tweeddale Coll.
d–i. ♂ ♀ ad. et imm. sk.	Butuan, May (*Everett*).	Tweeddale Coll. (Types of the species.)
k, l. ♂ ♀ ad. sk.	Zamboanga, March (*Everett*).	Tweeddale Coll.

5. Penelopides basilanica.

Penelopides affinis, *Tweeddale, P. Z. S.* 1879, p. 70.

Penelopides basilanica, *Steere, List Birds & Mamm. Philippines*, p. 13 (1890).

Adult male. Differs from the adult male of *P. affinis* in having the upper mandible flesh-coloured to the base.

Adult female. Differs from the adult female of *P. affinis* in the manner above mentioned.

Hab. Basilan, Philippine Islands.

a, b. ♂ nr. ad., ♀ ad. sk.	Basilan, June (*Everett*).	Tweeddale Coll.

6. Penelopides samarensis.

Penelopides affinis, *Tweeddale, P. Z. S.* 1878, pp. 108, 341.
Penelopides samarensis, *Steere, List Birds & Mamm. Philippines*, p. 13 (1890).

Adult male. Differs from the adult male of *P. affinis* only in having the upper tail-coverts buff-white, like the underparts.
Adult female. Resembles the adult female of *P. affinis*.
Hab. Samar, Leyte, Dinagat, Philippine Islands.

a, *b*. ♂ ♀ ad. sk.	Samar, March (*Worcester*).	Steere Expedition.
c, *d*. ♀ ad. et imm. sk.	South Leyte, Sept.	A. H. Everett, Esq. [C.].
e–*h*. ♂ ♀ ad. et imm. sk.	South Leyte, Sept., Oct. (*Everett*).	Tweeddale Coll.
i, *k*. ♂ ♀ ad. sk.	Amparo, July (*Everett*).	Tweeddale Coll.
l, *m*. ♂ ♀ ad. sk.	Dinagat Is., June (*Everett*).	Tweeddale Coll.
n, *o*. Skeleton.	S. Leyte.	A. H. Everett, Esq. [C.].

7. Penelopides exaratus.

Buceros exarhatus, *Temm. Pl. Col.* ii. p. 91, pl. 211 [♀] (1823); *Wagl. Syst. Av.* Buceros, no. 15 (1827); *Müll. & Schl. Verh. Ges. Ned. Ind.* p. 23 (1839–44); *Gray, Gen. B.* ii. p. 400 (1847); *Schl. Mus. Pays-Bas*, i. Buceros, p. 10 (1862); *Gray, Hand-l. B.* ii. p. 128, sp. 7880 (1870).
Buceros exarhætus, *Blyth, J. As. Soc. Beng.* xvi. p. 997 (1847).
Buceros exaratus, *Blyth, Cat. B. Mus. As. Soc.* p. 44 (1849); *Wald. Tr. Z. S.* viii. p. 47, pl. v. figs. 1 [♂] & 2 [♀] (1872); *Lenz, J. f. O.* 1877, p. 370; *Meyer, Ibis*, 1879, p. 65.
Hydrocissa exaratus, *Bonap. Consp. Gen. Av.* i. p. 90 (1850); *Elliot, Monogr. Bucerot.* pl. xlvi. [text] (1878).
Anorrhinus exaratus, *Bonap. Consp. Vol. Anisod.* p. 2 (1854).
Buceros (Hydrocissa) exaratus, *Dubois, Bull. Mus. Belg.* iii. p. 210 (1884).

Adult male. Lores, superciliary stripe, cheeks, sides of head, and throat white; rest of plumage black, the back, rump, wings, tail, and breast (slightly) glossed with dark green: naked skin round eye and on throat golden yellow; iris reddish brown; legs and feet black: casque reddish brown, maxilla and base of mandible yellowish white, rest darker; base of the mandible with four or five transverse ridges separated by several quadrate black interspaces. Total length 21 inches, wing 9·3, tail 7·4, tarsus 1·7.
Adult female. All the plumage black; back, rump, wings, and tail, and some of the feathers of the breast and flanks (slightly) glossed with dark green: naked skin round eye and on throat black; iris brown; legs and feet black; bill yellowish; casque golden brown. Total length 19·7 inches, wing 8·7, tail 7, tarsus 1·6.
Hab. Celebes.

a. ♀ ad. sk.	Celebes.	Purchased.
b. ♂ imm. st.	Celebes.	Purchased.

e–e. ♂ ♀ ad. sk.	Menado (*R. van Duivenbode*).	Tweeddale Coll.
f. ♀ ad. sk.	Menado.	Hume Coll.
g. ♀ ad. sk.	Menado.	A. R. Wallace, Esq. [C.].
h, i. ♂ ♀ ad. sk.	Macassar.	A. R. Wallace, Esq. [C.].
k. ♂ ad. st.	No loc.	Edward Wilson, Esq. [P.].

8. CRANORRHINUS.

Type.

Cassidix, *Bonap.* (*nec Less.*) *Consp. Gen. Av.* i. p. 90 (1850) ..... C. cassidix.
Cranorrhinus, *Cab. & Heine, Mus. Hein.* ii. p. 173 (1860). C. cassidix.

Bill large, curved and compressed; casque elevated in front and rounded off behind, covering the basal two fifths of the culmen, and extending over the skull to above or behind the eye, subcylindrical and smooth, or somewhat compressed and transversely folded; the base of both mandibles, or the lower only, covered with a plate and transversely grooved. Throat naked. Tail-feathers subequal, white, or white with the bases or ends or both black. Crest moderate or well-developed.

Range. Malacca, Sumatra, Borneo, Celebes, and Philippine Islands.

Key to the Species.*

I. A grooved plate at the base of both mandibles; tail white ..... *cassidix*, p. 377.
II. A grooved plate at the base of the lower mandible only.
a. Tail with basal third black, rest white .... *corrugatus*, p. 379.
b. Tail white with black tip ..... *leucocephalus*, p. 378.
c. Tail white (stained rufous), the basal third and the tip black ..... *waldeni*, p. 380.

1. Cranorrhinus cassidix.

Buceros cassidix, *Temm. Pl. Col.* ii. p. 66, pl. 210 (1823); *Wagl. Syst. Av.* Buceros, no. 3 (1827); *Griff. Anim. King.* ii. p. 434, pl. (1829); *Less. Traité Orn.* p. 253 (1831); *Müll. & Schl. Verh. Ges. Ned. Ind.* p. 24 (1839–44); *Gray, Gen. Birds*, ii. p. 399 (1847); *Schl. Mus. Pays-Bas*, i. Buceros, p. 9 (1862).
Calao (Cassidix) cassidix, *Bonap. Consp. Gen. Av.* i. p. 90 (1850).
Rhyticeros (Cassidix) cassidix, *Bonap. Consp. Vol. Anisod.* p. 3 (1854).
Cranorrhinus cassidix, *Cab. & Heine, Mus. Hein.* ii. p. 173 (1860); *Müll. & Schl. Verh. Ges. Ned. Ind., Aves*, p. 24, pl. 4 bis ♀ (1839–44); *Wallace, Malay. Arch.* i. p. 364 (1869); *Wald. Tr. Z. S.* viii. p. 47, figs. 1–4 (1872); *Lenz. J. f. O.* 1877, p. 370; *Elliot, Mon. Bucerot.* pl. 16 [text] (1877); *Meyer, Ibis*, 1879, p. 65; *Guillemard, P. Z. S.* 1885, p. 54; *id. Marchesa*, ii. p. 188 (1886).
Buceros (Cranorrhinus) cassidix, *Gray, Hand-l. B.* ii. p. 129 (1870); *Dubois, Bull. Mus. Belg.* iii. p. 192 (1884).

* Males have the head coloured; in the females it is black.

Adult male. The top of the head and nape deep chestnut; rest of head, neck, and upper chest buff or yellowish white; tail white; rest of plumage black, the upper parts glossed with dark green: bare skin round eye blue, on chin brownish; that on throat bluish white, crossed by a dark blue line; feet black; iris light brown to red; casque deep red; bill orange-yellow except at the base, which is dark red, crossed by three or more obliquely transverse ridges separated by black grooves. Total length 38 inches, wing 17·3, tail 12·2, tarsus 2·4.

Adult female. Differs from the male in having all the plumage of the head and neck black, and in the casque being orange-yellow like the anterior part of the bill. Total length 36 inches, wing 16, tail 10·5, tarsus 2·3.

Hab. Celebes.

a. ♂ ad. sk.	Gilolo (*R. van Duivenbode*).	Tweeddale Coll.
b–d. ♂ ♀ ad. sk.	Menado (*R. van Duivenbode*).	Tweeddale Coll.
e. ♂ ad. sk.	Menado.	Tweeddale Coll.
f. ♀ ad. sk.	Celebes.	Gould Coll.
g, h. ♂ ♀ ad. st.	Macassar.	A. R. Wallace, Esq. [C.].
i. Ad. st.	No loc.	Edward Wilson, Esq. [P.].

2. Cranorrhinus leucocephalus.

Buceros leucocephalus, *Vieill. N. Dict. d'Hist. Nat.* iv. p. 592 (1816).
Cranorrhinus leucocephalus, *Wald. Tr. Z. S.* p. 165, pl. xxvii. (1875); *id. P. Z. S.* 1877, p. 824; *Elliot, Mon. Bucerot.* p. 19 [text] (1880).
Craniorrhinus leucocephalus, *Steere, List Birds & Mamm. Philippines*, p. 13 (1890).
Buceros (Cranorrhinus) leucocephalus, *Dubois, Bull. Mus. Belg.* iii. p. 193 (1884).
Buceros sulcatus, *Temm. Pl. Col.* ii. p. 89, pl. 69 (1823); *Wagl. Syst. Av.* Buceros, no. 10 (1827); *Less. Traité Orn.* p. 254 (1831); *Gray, Gen. Birds*, ii. p. 400 (1847); *Schl. Mus. Pays-Bas*, i. Buceros, p. 10 (1862).
Tockus sulcatus, *Bonap. Consp. Gen. Av.* i. p. 91 (1850).
Calao sulcatus, *Bonap. Consp. Vol. Anisod.* p. 3 (1854).
Buceros (Penelopides) sulcatus, *Von Mart. J. f. O.* 1866, p. 18.
Buceros (Cranorrhinus) sulcatus, *Gray, Hand-l. B.* ii. p. 129 (1870).

Adult male. Occiput, nape, and back of neck deep chestnut: rest of head, neck, and upper chest buff; tail white, with a terminal black band; rest of plumage black glossed with dark bluish green: naked skin round eye and on chin and throat fiery orange-red; iris crimson; feet dull black; bill and casque deep red; lower mandible crossed at the base by four or more obliquely transverse ridges, the basal one being dark red, the rest whitish and separated from one another by brown grooves; casque with numerous transverse folds. Total length 29 inches, wing 13·2, tail 9·6, tarsus 2.

Adult female. Differs from the male in having the plumage of

head and neck dark shining black, and the casque smooth. Total length 23·5 inches, wing 11·9, tail 8·5, tarsus 1·8.

Hab. Mindanao, Camiguin, Philippine Islands.

a, b. ♂ ♀ ad. sk.	Butuan (*A. H. Everett*).	Tweeddale Coll.
c–f. ♂ ♀ ad. sk.	Surigao (*A. H. Everett*).	Tweeddale Coll.
g, h. ♂ imm. st.	Mindanao.	H. Cuming, Esq. [C.].
i. ♀ imm. sk.	Mindanao, Oct. (*Worcester*).	Steere Expedition.
k. ♀ ad. st.	Camiguin Is.	H. Cuming, Esq. [C.].

3. Cranorrhinus corrugatus.

Buceros corrugatus, *Temm. Pl. Col.* ii. p. 85, pl. 531 [♂] (1832); *Müll. & Schl. Verh. Ges. Ned. Ind.* pp. 24 & 31 (1839–44); *Gray, Gen. Birds*, ii. p. 399 (1847); *Schl. Mus. Pays-Bas*, i. Buceros, p. 9 (1862); *Sclat. P. Z. S.* 1868, p. 261; *Bartl. P. Z. S.* 1869, p. 142; *Flow. P. Z. S.* 1869, p. 150; *Sclat. P. Z. S.* 1870, p. 220, 1871, p. 489; *Murie, P. Z. S.* 1874, p. 420.

Calao (Cassidix) corrugatus, *Bonap. Consp. Gen. Av.* i. p. 90 (1850).

Rhyticeros (Cassidix) corrugatus, *Bonap. Consp. Vol. Anisod.* p. 3 (1854).

Cranorrhinus corrugatus, *Walden, Trans. Z. S.* viii. p. 51 (1872); *Salvadori, Ucc. Borneo*, p. 86 (1874); *Sharpe, Ibis*, 1879, p. 246; *Elliot, Mon. Bucerot.* pl. 17 [text] (1880); *Hartert, J. f. O.* 1889, p. 366.

Buceros (Cranorrhinus) corrugatus, *Dubois, Bull. Mus. Belg.* iii. p. 192 (1884).

Buceros gracilis, *Temm. Pl. Col.* ii. p. 87, pl. 535 [♀] (1832); *Sclat. P. Z. S.* 1870, p. 220.

Buceros rugosus, *Begbie, Malay Peninsula* (1834), *and Ann. Mag. N. H.* xvii. p. 404 (1846).

Hydrocissa migratoria, *Maing. P. As. Soc. Beng.* p. 196 (1868).

Adult male. Top of head and nape deep shining black, rest of head and neck white; basal third of tail-feathers black, rest white, though usually discoloured so as to appear buff or chestnut; rest of plumage black glossed with dark green: naked skin round eye blue; red with black markings on chin and throat; iris reddish brown; feet dull black; casque and base of mandibles bright red, rest of bill yellow; base of lower mandible with obliquely transverse ridges separated by dark grooves; casque with several transverse folds anteriorly. Total length 32 inches, wing 16·2, tail 10·9, tarsus 1·9.

Adult female. Differs from male in having all the plumage of the head and neck black, and the casque without transverse folds and the same yellow colour as the bill. Total length 29 inches, wing 14, tail 9·6, tarsus 1·9.

Hab. Malacca, Sumatra, Borneo.

a, b. ♂ ♀ ad. sk.	Malacca, Nov. (*Dr. Maingay*).	Tweeddale Coll.
c, d. ♂ imm.; ♀ ad. st.	Malacca.	H. Cuming, Esq. [C.].
e, f. ♂ ♀ ad. sk.	Malacca, July.	Hume Coll.
g, h. ♂ ♀ ad. st.	[Malacca?]	

i, k. ♂ ♀ ad. sk.	Baram, N.W. Borneo.	C. Hose, Esq. [C.].
l. ♂ ad. sk.	Lawas River (*Gov. Ussher*).	Tweeddale Coll.
m, n. ♂ ♀ ad. sk.	Lawas River.	Gov. Ussher [C.].
o, p. ♂ ad. sk.	Lawas River.	H. Veitch, Esq. [P.].
q. ♀ ad. sk.	Sarawak (*A. H. Everett*).	Tweeddale Coll.
r. ♂ ad.	(Head only.)	

4. Cranorrhinus waldeni.

Craniorrhinus waldeni. *Sharpe, Tr. Linn. Soc.* (2) i. pp. 322, 351 (1879); *Steere, List Birds & Mamm. Philippines*, p. 13 (1890).
Cranorrhinus waldeni, *Elliot, Mon. Bucerot.* pl. 18 [text] (1877).

Adult male. Head and neck and chest dark chestnut, the feathers next the naked parts of the face and throat inclining to buff; tail white (stained rufous), the basal third and the tips of the feathers black; rest of the plumage black, the upper parts glossed with dark green: naked skin round the eye and on the throat yellow; iris red; legs and feet black; bill and casque red, except towards the end; base of the lower mandible covered by a plate with dark coloured oblique grooves; casque transversely folded. Total length 28·5 inches, wing 13·6, tail 10, tarsus 2.

Adult female. Differs from the male in having all the plumage of the head and neck black, and the casque without transverse folds: naked skin appears to have been black mixed with yellow. Total length 26·5 inches, wing 12·2, tail 8·6, tarsus 1·9.

Hab. Guimaras, Panay; Philippine Islands.

a, b. ♂ ♀ ad. sk.	Concepcion, Panay, Jan. (*Moseley*).	Steere Exped.

9. ACEROS.

	Type.
Aceros (*Hodgs.*), *Gray, Zool. Misc.* p. 85 (1844).....	A. nepalensis.

Like *Cranorrhinus*, but the casque is rudimentary, and the base of the upper mandible only is covered by a large transversely grooved plate; tail wedge-shaped, basal half black, rest white; feathers of the crest and neck very long and hairy.

Range. S.E. Himalayas to Tenasserim.

1. Aceros nepalensis.

Buceros nepalensis, *Hodgs. Asiat. Res.* xviii. pt. i. no. x. p. 178, 2 pls. (1829); *id. Glean. Sci.* i. p. 249 (1829); *id. P. Z. S.* 1832, p. 15; *Blyth, J. As. Soc. Beng.* xii. pt. ii. p. 989 (1843), xvi. p. 997, pl. 44. fig. 1 (1847); *Gray, Gen. B.* ii. p. 399, pl. xcix. (1847); *Blyth, Cat. B. Mus. As. Soc.* p. 45 (1849); *Schl. Mus. Pays-Bas*, i. Buceros, p. 10 (1862).
Aceros nepalensis, *Hodgs. Icon. ined. in Brit. Mus. Pass.* pl. 314 (nos. 600–602); *App.* pls. 33, 34 (nos. 46, 47); *id. Gray's Zool. Misc.* p. 85 (1844); *Horsf. & Moore, Cat. B. Mus. E. Ind. Co.* ii. p. 601 (1856–58); *Jerdon, B. Ind.* i. p. 250 (1862); *Sclater, P. Z. S.* 1864, p. 251; *Austen, J. A. Soc. Beng.* xxxix. pt. ii. p. 95 (1870);

Blyth, Ibis, 1866, p. 350; *Jerd. Ibis*, 1872, p. 5; *Blyth, Cat. Mamm. B. Burma*, p. 69 (1875); *Gammie, Str. F.* iii. p. 210 (1875); *Elliot, Mon. Bucerot.* pl. 45 [text] (1878); *Hume & Dav. Str. F.* vi. p. 110 (1878); *Sclat. P. Z. S.* 1884, p. 251; *Beddard, P. Z. S.* 1889, p. 588, fig. 3; *Oates, ed. Hume's Nests & Eggs Ind. B.* iii. p. 77 (1890).

Calao (Aceros) nepalensis, *Bonap. Consp. Gen. Av.* i. p. 90 (1850).

Rhyticeros (Aceros) nepalensis, *Bonap. Consp. Vol. Anisod.* p. 3 (1854).

Buceros (Aceros) nepalensis, *Tickell, Ibis*, 1864, p. 182; *Dubois, Bull. Mus. Belg.* iii. p. 209 (1884).

Aceros leucostigma, *Salvad. Ann. Mus. Genov.* (2) v. p. 515 (1887).

Adult male. Head, neck, mantle, and underparts, except under tail-coverts, rufous-chestnut, palest on the head and chest, darkest on the belly and flanks; wings, back, rump, tail-coverts, and basal half of tail black, with bright dark green gloss; ends of five middle primaries and rest of tail white: naked skin round eye, at base of lower mandible and posterior part of gular patch blue, rest of throat red; iris reddish brown; legs and feet black (*B. H. Hodgson*); bill yellowish white, the basal part of the maxilla with several (seven in old examples) obliquely transverse ridges separated by subquadrate black grooves. Total length 43 inches, wing 17·8, tail 17·4, tarsus 2·5.

Young male resembles the adult, but the ends of the tail-feathers are tipped with black, and there are no ridges on the base of the upper mandible; after the first moult, when there are one or more ridges developed, three or so of the outer primary-coverts come in mixed with white; this character disappears in older birds.

Adult female. Whole of the plumage black except the ends of the middle primaries and the terminal two-fifths of the tail; the back, rump, tail-coverts, wings, and basal part of tail glossed with dark green: bill as in the male (*B. H. Hodgson*). Total length 42 inches, wing 17, tail 16·7, tarsus 2·5.

In an *immature female* with only two ridges on the base of the upper mandible, the thighs and belly are mixed with rufous-chestnut, as in the male.

Hab. S.E. Himalayas, Hills Assam, Manipur and Cachar; Tenasserim Prov. [Mooleyit].

a–r. ♂ ♀ ad. et imm. sk.	Sikhim, Feb., Mar., April, May, Aug., Sept. (*L. Mandelli*).	Hume Coll.
s–z. ♂ ♀ ad. et imm. sk.	Darjeeling, April, May.	Hume Coll.
a′, b′. ♂ ♀ ad. sk.	Darjeeling, May.	Tweeddale Coll.
c′–s′. ♂ ♀ ad. et imm. sk.	Nepal (*B. H. Hodgson*).	
t′. ♀ imm. sk.	N. Cachar Hills.	Major H.H. Godwin-Austen [P.].
u′. Bones of ♂ juv.	Nepal.	B. H. Hodgson, Esq. [P.].

10. RHYTIDOCEROS.

	Type.
Rhyticeros, *Reich. Syst. Av.* pl. l. (1849)	R. undulatus.
Calao, *Bonap. Consp. Gen. Av.* i. p. 90 (1854)	R. plicatus.
Rhytidoceros, *Cab. & Heine, Mus. Hein.* ii. p. 172 (1860)	R. obscurus.

Bill large, curved, and compressed. Casque, which covers the basal two-fifths of the culmen and does not extend over the skull, consists of a series of overlapping oblique plaits. Base of the mandibles with or without grooved plates. Throat naked. Tail subequal, white. Crest well-developed.

Range. Throughout the greater part of the Malayan Archipelago as far east as the Solomon Islands.

Key to the Species.

I. Head and neck coloured.
- A. Base of both mandibles covered with transverse ridges ..... *undulatus* ♂, p. 382.
- B. Base of both mandibles without transverse ridges.
  - *a.* Top of head and occiput dark chestnut, shading into black on the back of the neck; rest of head and neck white tinged with buff ..... *subruficollis* ♂, p. 384.
  - *b.* Head and neck bright chestnut.
    - *a'.* Larger: wing 16·9 inches..... *plicatus* ♂, p. 386.
    - *b'.* Smaller: wing 12 inches ..... *narcondami* ♂, p. 386.

II. Head and neck black.
- C. Base of both mandibles covered with transverse ridges ..... *undulatus* ♀, p. 382.
- D. Base of both mandibles without transverse ridges.
  - *c.* Gular skin deep blue: size large, wing ca. 14·2 inches ..... *subruficollis* ♀, p. 384.
  - *d.* Gular skin white.
    - *c'.* Size larger: wing ca. 16·2 inches .. *plicatus* ♀, p. 386.
    - *d'.* Size smaller: wing 10·7 inches .... *narcondami* ♀, p. 386.

1. Rhytidoceros undulatus.

Le Calao à casque festonné, *Levaill. Hist. Nat. d'Ois. l'Amér.* i. p. 41, pls. xx. & xxi. (1801).

Le Calao Javan, *Levaill. Hist. Nat. d'Ois. l'Amér.* i. p. 45, pl. xxii. (1801); *id. Hist. Nat. Ois. d'Afr.* v. p. 125, pl. 239 (1806); *Vieill. N. Dict. d'Hist. Nat.* iv. p. 595 (1816).

Buceros undulatus, *Shaw, Gen. Zool.* viii. p. 26 (1811); *Horsf. Trans. Linn. Soc.* xiii. p. 175 (1822); *Vig. App. Mem. Raff.* p. 666 (1830); *Less. Traité Orn.* p. 255 [part.] (1831).

Rhytidoceros undulatus, *Tweeddale, Ibis*, 1877, p. 292; *Elliot, Monog. Bucerot.* pl. 35 [text] (1877); *Oates, B. Brit. Burmah*, ii. p. 93 (1883); *Oates, ed. Hume's Nests & Eggs Ind. B.* iii. p. 80 (1890).

Rhyticeros undulatus, *Hume & Dav. Str. F.* vi. p. 111 (1878); *Hume, Str. F.* viii. p. 86 (1879); *Bingham, Str. F.* viii. pp. 194, 463 (1879), ix. p. 159 (1880); *Hume, Str. F.* ix. p. 247 (1880) *Oates, Str. F.* x. p. 189 (1882); *Hume, Str. F.* xi. p. 52 (1888).

Buceros javanicus, *Shaw, Gen. Zool.* viii. p. 28 (1811); *Vieill. N. Dict. d'Hist. Nat.* iv. p. 595 (1816).
Buceros niger, *Vieill. N. Dict. d'Hist. Nat.* iv. p. 592 (1816).
Buceros annulatus, *Dumont, Dict. Sc. Nat.* vi. p. 210 (1817); *Drapiez, Dict. Class. Hist. Nat.* iii. p. 32 (1828).
Buceros javanus, *Dumont, Dict. Sc. Nat.* vi. p. 215 (1817).
Buceros plicatus, *Müll. & Schl. Verh. Ges. Ned. Ind.* pp. 24, 30 (1839–44); *Gray, Gen. B.* ii. p. 399 [part.] (1847); *Blyth, Cat. B. Mus. As. Soc.* p. 45 (1849); *Hartl. J. f. O.* 1859, p. 289; *Bernst. J. f. O.* 1861, p. 113; *Schl. Mus. Pays-Bas*, i. Buceros, p. 2 (1862); *Eyton, Ost. Av.* p. 60 (1867); *Sclat. Rev. List Vert. Anim.* p. 170, fig. 20 (1872); *Garrod, P. Z. S.* 1873, p. 464.
Rhyticeros plicatus, *Reich. Syst. Av.* pl. lx. (1849); *Bonap. Consp. Vol. Anisod.* p. 3 (1854); *Horsf. & Moore, Cat. B. Mus. E. Ind. Co.* ii. p. 598 (1856-58); *Moore, P. Z. S.* 1859, p. 451; *Godwin-Austen, J. As. Soc. Beng.* xxxix. pt. ii. p. 96 (1870); *Jerd. Ibis*, 1872, p. 5; *Hume, Str. F.* ii. p. 470 (1874).
Calao (Calao) plicatus, *Bonap. Consp. Gen. Av.* i. p. 90 (1850).
Aceros plicatus, *Blyth, Cat. Mamm. & B. Burma*, p. 69 (1875).
Buceros (Rhytidoceros) plicatus, var. undulatus, *Dubois, Bull. Mus. Bely.* iii. p. 206 (1885).
Buceros pucoran, *Blyth, J. As. Soc. Beng.* xii. pt. ii. p. 990 (1843).
Buceros pusaran, *Blyth, J. As. Soc. Beng.* xvi. p. 998 (1847); *id. Cat. B. Mus. As. Soc.* p. 45 (1849).
Buceros (Rhyticeros) pusaran, *Tickell, Ibis*, 1864, p. 180 [part.].
Rhytidoceros obscurus, *Cab. & Heine (nec Gm.), Mus. Hein.* ii. p. 172 (1860); *Salvad. Ucc. Borneo*, p. 85 (1874).
Buceros (Rhyticeros) obscurus, *Gray, Hand-l. B.* ii. p. 129 (1870).
Rhyticeros obscurus, *Hume, Nests & Eggs Ind. B.* p. 115 (1873).
Aceros plicatus (? *Lath.*), *Blyth, Cat. Mamm. B. Burma*, p. 69 (1875).

Adult male. Top of the head and occiput dark chestnut, shading into black on the back of the neck; sides of head and rest of neck white, more or less tinged with buff; rest of plumage black glossed with green, except the tail, which is pure white: naked skin round eye reddish fleshy; gular skin intense bright yellow, with a broad transverse black band interrupted just at the middle; iris orange-red; legs and feet black, inclining to hoary on the back and sides of the tarsus: bill pale horny yellowish white, reddish towards the base, with transverse plaits on both mandibles; first plait of the casque reddish; nine plaits appear to be the limit even in the oldest examples. Total length 42 inches, wing 19·5, tail 12·8, tarsus 2·6.

Young male, with plaits of casque undeveloped and base of bill smooth, is similar to the adult in other respects. The tail-feathers are sometimes irregularly spotted with black. In specimens with three or four plaits only the plaits are much wider than in the older examples.

Adult female. Entire plumage black except the tail, which is pure white. The back and wings are glossed with dark green. In other points it resembles the male adult, but the gular skin is intense blue instead of yellow. Total length 34 inches, wing 17, tail 11·1, tarsus 2·2.

Young female, with only two plaits of the casque developed, is similar to the adult.

Hab. Cachar, Manipur, Pegu, Tenasserim, Malay Peninsula, Sumatra, Java, Borneo.

a, *b*, *c*. ♂ ♀ ad. sk.	Cachar, March.	Hume Coll.
d. ♂ imm. sk.	Dilkousha, Cachar.	Hume Coll.
e, *f*, *g*. ♂ ♀ ad. sk.	N. Cachar Hills.	Major H. H. Godwin-Austen [P.].
h. ♂ ad. sk.	N. Khasia Hills, Feb. (*A. W. Chennell*).	Tweeddale Coll.
i. ♂ ad. sk.	Manipur, Feb. (*A. O. H.*).	Hume Coll.
k. ♂ imm. sk.	Tonghoo, Dec. (*R. G. W. R.*).	Tweeddale Coll.
l. ♂ ad. sk.	Meplay, Thoungyeen, Jan.	C. T. Bingham, Esq. [C.].
m. ♂ imm. sk.	Zami River, Feb. (*C. T. Bingham*).	Hume Coll.
n. ♂ ad. sk.	Jahdee, S. of Yea, April (*W. Davison*).	Hume Coll.
o. ♀ imm. sk.	80 miles S. of Mergui, Dec. (*W. Davison*).	Hume Coll.
p, *q*. ♂ ♀ ad. sk.	Pakchan, Jan. (*W. Davison*).	Hume Coll.
r–*k'*. ♂ ♀ ad. sk.	Bankasoon, Feb. to May and Dec. (*W. Davison*).	Hume Coll.
l', *m'*. ♂ ♀ ad. sk.	Malawoon, Jan.	E. W. Oates, Esq. [C.].
n'. ♂ ad. sk.	Victoria Point, March (*W. Davison*).	Hume Coll.
o'. ♀ ad. sk.	Choungthanoung, Dec. (*W. Davison*).	Hume Coll.
p'. ♀ ad. sk.	Province Wellesley (*Dr. Cantor*).	India Museum.
q'–*t'*. ♂ ad. et imm. sk.	Pinang (*Dr. Cantor*).	India Museum.
u', *v'*. ♀ ad. et ♂ imm. sk.	Malacca, Sept.	Hume Coll.
w'–*z'*. ♂ ♀ ad. et imm. sk.	Malacca (*Dr. A. C. Maingay*).	Tweeddale Coll.
a''. ♂ ad. sk.	Malacca.	Capt. Stackhouse Pinwill [P.].
b''. ♂ ad. st.	Malacca.	Purchased.
c'', *d''*. ♂ ad. sk.	Lampong, S.E. Sumatra (*E. C. Buxton*).	Tweeddale Coll.
e'', *f''*. ♀ ad. st.	Indian Archipelago.	Purchased.

2. Rhytidoceros subruficollis.

Buceros subruficollis, *Blyth, J. As. Soc. Beng.* xii. pt. i. p. 177 (1843); *ibid.* xviii. p. 320 (1849); *Barbe, J. As. Soc. Beng.* x. p. 992 (1841).

Rhyticeros subruficollis, *Horsf. & Moore, Cat. B. Mus. E. Ind. Co.* ii. p. 600, no. 883 (1856–58); *Hume, Nests & Eggs Ind. B.* pt. i. p. 115 (1873); *Hume, Str. F.* ii. p. 470 (1874); *Hume & Dav. Str. F.* vi. p. 112 (1878); *Ramsay, Ibis*, 1877, p. 455; *Hume, Str. F.* viii. p. 86 (1879); *Bingham, Str. F.* viii. p. 463 (1879), ix. p. 159

(1880); *Oates, Str. F.* x. p. 189 (1882); *Nicholson, Ibis*, 1883, p. 241.

Rhytidoceros subruficollis, *Cab. & Heine, Mus. Hein.* ii. p. 172 (1860); *Tweeddale, Ibis*, 1877, p. 295; *Elliot, Monog. Bucerot.* pl. 36 [text] (1878); *Sharpe, Ibis*, 1879, p. 246; *Oates, B. Brit. Burmah*, ii. p. 91 (1883); *Anderson, J. L. S.* xxi. p. 147 (1887); *Oates, ed. Hume's Nests & Eggs Ind. B.* iii. p. 81 (1890).

Buceros (Rhyticeros) subruficollis, *Gray, Hand-l. B.* ii. p. 129 sp. 7886 (1870).

Aceros subruficollis, *Blyth, Cat. Mamm. & B. Burma*, p. 69, sp. 72 (1875); *Oates, Str. F.* vii. p. 46 (1878).

Buceros plicatus, *Blyth* (*nec Forst.*), *J. As. Soc. Beng.* xii. p. 991 (1843); *ibid.* xvi. p. 998 (1847); *Gray, Gen. B.* ii. p. 399 [part.] (1847); *Blyth, Cat. B. Mus. As. Soc.* p. 45 (1849).

Buceros (Rhytidoceros) plicatus, var. subruficollis, *Dubois, Bull. Mus. Belg.* iii. p. 206 (1885).

Buceros (Rhyticeros) pusaran, *Tickell, Ibis*, 1864, p. 180 [part.].

Adult male. Resembles the male adult of *R. undulatus* in every particular except that the base of the bill is smooth, and never has any transverse plaits developed; the gular skin has no transverse black band, and the general size is smaller; iris lake: bill greenish white; eyelids greenish; skin on throat bright lemon-yellow; legs black. Total length 37·5 inches, wing 17·5, tail 10·4, tarsus 2·1.

Adult female. Exactly similar to the female adult of *R. undulatus*, but the base of the bill smooth instead of being covered with transverse plaits, and the size smaller: skin on throat turquoise-blue. Total length 30 inches, wing 14·2, tail 8·2, tarsus 2.

An adult male from Labuan has the *back* of the neck white like the front.

Hab. Arrakan, Pegu, Tenasserim, Southern Shan States of Siam, Sumatra, Borneo.

a–h. ♂ ♀ ad. et imm. sk.	Tonghoo, Feb., May, June, Dec. (*R. G. W. R.*).	Tweeddale Coll.
i. ♂ ad. sk.	Pegu, April.	E. W. Oates, Esq. [C.].
k. ♀ ad. sk.	Lower Pegu, Feb.	E. W. Oates, Esq. [C.].
l, m. ♂ ♀ ad. sk.	Amherst, March (*W. Davison*).	Hume Coll.
n. ♂ ad. sk.	S. of Yea, April (*W. Davison*).	Hume Coll.
o, p, q. ♂ ♀ ad. sk.	Karope, March (*W. Davison*).	Hume Coll.
r. ♂ ad. sk.	Meetamyo, Tavoy, April (*W. Davison*).	Hume Coll.
s. ♂ ad. sk.	Tenasserim, Feb. (*W. Limborg*).	Tweeddale Coll.
t. ♀ ad. sk.	Tenasserim, Feb.	C. T. Bingham [C.].
u, v, w. ♂ ♀ ad. sk.	Tenasserim (*Helfer*).	India Museum. (Typical specimens.)
x. ♀ ad. sk.	Bankasoon, Dec. (*W. Davison*).	Hume Coll.
y. ♀ ad. sk.	Rawas R., Sumatra, Nov. (*H. O. Forbes*).	F. Nicholson, Esq. [P.].
z. ♂ imm. sk.	Baram, Sarawak.	C. Hose, Esq. [C.].

a'. ♀ ad. sk.	Mempakul River, opposite Labuan (*Gov. Ussher*).	Gov. Ussher [C.].
b'–e'. ♂ ♀ ad. sk.	Lawas R., N.W. Borneo.	Gov. Ussher [C.].
f'. ♀ ad. sk.	No locality.	Bishop of Victoria [P.].

g'. Ad. skeleton.

3. Rhytidoceros narcondami.

Rhyticeros narcondami, *Hume, Str. F.* i. p. 411 (1873), ii. pp. 110, 176 (1874).

Rhytidoceros narcondami, *Elliot, Mon. Bucerot.* pl. 38 [text] (1880).

Buceros (Rhytidoceros) plicatus, *Dubois, Bull. Mus. Belg.* iii. p. 205 [part.] (1884).

Adult male. Head and neck bright chestnut, shading into buff-white on the throat; rest of the plumage with the exception of the tail, which is pure white (stained grey), black, the upper parts glossed with dark green: naked skin round eye pale blue; gular skin bluish white; iris pale red; legs and feet brown, soles grey: bill and casque horny yellowish brown, the posterior plait and base of both mandibles red, the latter without any transverse ridges. Total length 22 inches, wing 12, tail 7·6, tarsus 1·6.

Adult female. Entirely black except the tail, which is pure white (stained grey); wings, back, and rump glossed with dark green. Otherwise similar to the male.

Hab. Narcondam Island, Bay of Bengal.

a, *b*. ♂ ♀ ad. sk.	Narcondam Island, Bay of Bengal, 23rd March, 1873. (Types of the species.)	Hume Coll.

4. Rhytidoceros plicatus.

Wreathed Hornbill, *Lath. Gen. Syn.* i. p. 358 (1781); *id. Suppl.* i. p. 70 (1787).

Buceros plicatus, *Forst.* (*ex Dampier*, p. 231) *Ind. Zool.* p. 40 (1781); *Lath. Ind. Orn.* i. p. 146 (1790); *Shaw, Gen. Zool.* viii. p. 38 (1811); *Vieill. N. Dict. d'Hist. Nat.* iv. p. 593 (1816); *Dumont, Dict. Sc. Nat.* vi. p. 210 (1817); *Merrem, Ersch u. Gruber, Encycl.* xiii. p. 287 (1824); *Wagl. Syst. Av.* Buceros, n. 8 [part.] (1827); *Less. Traité Orn.* p. 255 (1831); *Gray, Gen. B.* ii. p. 399 [part.] (1847); *Tweeddale, Ibis*, 1877, p. 295.

Rhyticeros (Rhyticeros) plicatus, *Bonap. Consp. Vol. Anisod.* p. 3 (1854).

Rhytidoceros plicatus, *Tweeddale, Ibis*, 1877, p. 294; *Salvad. Ann. Mus. Civ. Genov.* x. p. 299 (1877); *Ramsay, P. L. S. N. S. W.* iii. p. 263 (1878), iv. p. 97 (1879); *Elliot, Mon. Bucerot.* pl. 37 [text] (1878); *D'Alb. & Salv. Ann. Mus. Civ. Genov.* xiv. p. 47 (1879); *Salvad. Orn. Papuasia*, i. p. 392 (1880); *Blasius, P. Z. S.* 1882, p. 702; *Guillemard, P. Z. S.* 1885, p. 566; *Grant, P. Z. S.* 1887, p. 330, 1888, p. 192; *Tristram, Ibis*, 1889, p. 557.

Rhytidoceros plicatus, var. ruficollis, *Salvad. Ann. Mus. Civ. Genov.* x. p. 299 (1877).

Buceros (Rhytidoceros) plicatus, *Dubois, Bull. Mus. Belg.* iii. p. 205 [part.] (1885).

Buceros obscurus, *Gm. S. N.* i. p. 362 (1788).

Buceros ruficollis, *Vieill. N. Dict. d'Hist. Nat.* iv. p. 600 (1816); *Quoy & Gaim. Voy. Uran. Zool.* p. 678 (1824); *Temm. Pl. Col.* ii. p. 68, pl. 557 (1834); *Müll. & Schl. Verh. Ges. Ned. Ind.* pp. 24, 30 (1839–44); *Müll. Verh. Nat. Ges. Land- en Volk.* pp. 22, 109 (1839-44); *Gray, Gen. B.* ii. p. 399 (1847); *Sclat. J. Linn. Soc.* ii. p. 156 (1858); *Gray, P. Z. S.* 1858, p. 194; *id. Cat. B. New Guin.* pp. 38, 59 (1859); *id. P. Z. S.* 1860, p. 356, 1861, p. 436; *Bernst. J. f. O.* 1861, p. 118; *Schl. Mus. Pays-Bas*, i. Buceros, p. 3 (1862); *Bennet, P. Z. S.* 1862, p. 83; *Wall. Intell. Obs.* iii. p. 314 (1863); *Parker, P. Z. S.* 1863, p. 516; *Finsch, Neu-Guin.* p. 161 (1865); *Sclat. P. Z. S.* 1869, p. 122; *Rosenb. Reist. naar Geelwinkb.* pp. 83, 115 (1875); *Mackay, P. L. S. N. S. W.* i. p. 37 (1876); *D'Alb. Ann. Mus. Civ. Genov.* x. p. 9 (1877); *Scl. P. Z. S.* 1878, p. 671; *Finsch, P. Z. S.* 1879, p. 17; *Layard, Ibis*, 1880, p. 307; *Finsch, Ibis*, 1881, p. 537.

Calao (Calao) ruficollis, *Bonap. Consp. Gen. Av.* i. p. 90 (1850); *Rosenb. Nat. Tijd. Ned. Ind.* xxv. p. 229 (1863); *id. J. f. O.* 1864, p. 117.

Rhyticeros (Rhyticeros) ruficollis, *Bonap. Consp. Vol. Anisod.* p. 3 (1854).

Buceros (Rhyticeros) ruficollis, *Gray, Hand-l. B.* ii. p. 129 (1870).

Rhytidoceros ruficollis, *Salvad. Ann. Mus. Civ. Genov.* vii. p. 763 (1875), ix. p. 19 (1876), x. p. 124 (1877); *Sharpe, J. Linn. S.* xiii. p. 314 (1877), p. 493 (1878), xiv. p. 186 (1879).

Calao papuensis, *Rosenb. Nat. Tijd. Ned. Ind.* p. 229 (1863); *id. J. f. O.* 1864, p. 117.

Buceros flavicollis, *Ramsay, P. L. S. N. S. W.* i. p. 393 (1876).

Adult male. Head, neck, and upper chest dark chestnut, rather paler on the throat *; tail pure white, rest of plumage black, the back and wings especially being glossed with dark green: bill yellowish white, reddish at the base, and without any transverse ridges (*C. M. Woodford*). Total length 34 inches, wing 16·7, tail 10, tarsus 2·2.

Young male. Without casque; scarcely differs in plumage from the adult. The head and neck appear to be always rufous-buff, and the tail is irregularly spotted with black. The iris is reddish brown.

Adult female. Tail pure white, rest of plumage black; the upper parts except the head and neck glossed with dark green: otherwise similar to the male adult. Total length 30 inches, wing 16·2, tail 9·3, tarsus 2·2.

Young female. Resembles the adult.

Hab. Solomon Islands, New Britain, New Guinea, Waigiou, Mysol, Halmahera, Morty, Batchian, Ceram, Amboyna, Salwatti, Ravak, Guebèh, and Batanta.

a. ♂ ad., head only.	Morty Island.	A. R. Wallace, Esq. [C.].
b–d. ♂ ♀ ad. et imm. sk.	Gilolo.	A. R. Wallace, Esq [C.].

* The tint of the head and neck is subject to great variation, some specimens being dark chestnut, while others are rufous-buff. This difference is partly due to age, the younger examples being always pale, but an old example from Gilolo with 6 plaits to the casque is as pale as the youngest.

e. ♂ imm. sk.	Waigiou.	A. R. Wallace, Esq. [C.].
f. ♂ ad. sk.	Mysol, Aug. (*A. R. Wallace*).	Tweeddale Coll.
g. ♀ ad. sk.	Mysol.	A. R. Wallace, Esq. [C.].
h. ♂ ad. sk.	Ceram.	A. R. Wallace, Esq. [C.].
i. ♀ ad., head only.	Astrolabe Mountains.	H. H. Romilly, Esq. [P.].
j, k. ♂ ♀ ad. sk.	Port Moresby (*Broadbent*).	Purchased.
l. ♂ imm. sk.	Aleya, S.E. New Guinea, March.	Tweeddale Coll.
m. ♂ ad. sk.	S. New Guinea.	Tweeddale Coll.
n. ♀ ad. sk.	New Britain.	Rev. G. Brown [C.].
o. ♂ imm. sk.	Solomon Islands.	P. L. Sclater, Esq. [P.].
p. ♂ imm. sk.	Shortland Islands.	C. M. Woodford, Esq. [C.].
q, r. ♂ ♀ ad. sk.	Guadalcanar, May.	C. M. Woodford, Esq. [P.].
s. ♀ imm. sk.	Guadalcanar.	C. M. Woodford, Esq. [C.].
t. Ad. skeleton.	No locality.	
u–x. Skull and sternum.	Solomon Islands.	C. M. Woodford, Esq. [C.].
y. Sternum.		

11. CERATOGYMNA.

	Type.
Ceratogymna, *Bonap. Consp. Vol. Anisod.* p. 2 (1854)	C. elata.
Tmetoceros, *Bonap.* (*nec Cab.*) *Consp. Vol. Anisod.* p. 2 (1854)	C. atrata.
Sphagolobus, *Cab. & Heine, Mus. Hein.* ii. p. 171 (1859) ..	C. atrata.

Bill large, deep, and somewhat curved; casque large, elevated, subcylindrical, covering the basal half or more of the culmen, and extending over the skull behind the eye; a naked wattle at the base of the throat, which is naked, with the exception of a line of feathers down the middle from the chin to the base of the wattle; crest soft, fairly developed; tail rounded; middle pair of tail-feathers black; outer pairs white, or black with white ends.

Range. W. Africa.

Key to the Species.

A. Lateral tail-feathers white.
- *a.* Head black ..... *elata* ♂, p. 388.
- *b.* Head red ..... *elata* ♀, p. 388.

B. Lateral tail-feathers black, with the outer half white.
- *c.* Head black..... *atrata* ♂, p. 389.
- *d.* Head red ..... *atrata* ♀, p. 389.

1. Ceratogymna elata.

Buceros elatus, *Temm. Pl. Col.* ii. p. 75, pl. 521. fig. 1 (1831); *Gray, Gen. B.* ii. p. 399 (1847); *Cassin, J. Acad. Nat. Sci. Philad.* i. p. 135 (1848); *Sundev. Œfvers. Kongl. Vetensk. Akad. Förh.* vi.

p. 161 (1849); *Hartl. J. f. O.* 1854, p. 126, 1855, p. 361, 1861, p. 261; *id. Orn. W.-Afr.* p. 161 (1857); *Gurney, Ibis*, 1859, p. 153; *Schl. Mus. Pays-Bas*, i. Buceros, p. 18 (1862); *Eyton, Osteol. Av.* p. 63 (1867); *Sharpe, Ibis*, 1872, p. 67; *Sclat. Rev. List Vert. Anim.* p. 72 (1872); *Ussher, Ibis*, 1874, p. 51.

Bucorvus elatus, *Bonap. Consp. Gen. Av.* i. p. 89 (1850).

Ceratogymna elata, *Bonap. Consp. Vol. Anisod.* p. 2 (1854); *Elliot, Mon. Bucerot.* pl. 23 [text] (1878); *Shelley, Ibis*, 1888, p. 50; *Reich. J. f. O.* 1890, p. 114.

Buceros (Ceratogymna) elatus, *Gray, Hand-l. B.* pt. ii. p. 130, sp. 7909 (1870); *Dubois, Bull. Mus. Belg.* iii. p. 198 (1884).

Buceros cultratus, *Sundev. Œfvers. Kongl. Vetensk. Akad. Förh.* vi. p. 160 [♀] (1849); *Jard. Contr. Orn.* p. 161 (1852); *Hartl. J. f. O.* 1854, p. 127; *id. Orn. W.-Afr.* p. 161 (1857).

Tmetoceros cultratus, *Bonap. Consp. Vol. Anisod.* p. 2 (1854).

Adult male. Centre line of throat, from the chin to the wattle, and sides of throat and neck scantily covered with short brown feathers with buff bases, between which the naked skin appears; crest, breast, and rest of underparts brownish black; wings, back, rump, upper tail-coverts, and two central tail-feathers brownish black, bronzed with purplish green; rest of tail white; the uncovered bases of the primary quills are white: bill black; casque very high and abruptly truncated in front, black at the base and yellowish white above. Total length 36 inches, wing 15, tail 12·2, tarsus 2·2.

Adult female. Differs from the male adult in having all the feathers of the head and neck rufous-buff, with paler bases; otherwise the plumage is similar: bill and casque yellowish white, the latter but slightly developed. Total length 31 inches, wing 13·8, tail 10·5, tarsus 2.

The *nestling* and *immature* resemble the *female adult*; but in young males the dark brown feathers of the crest, mixed with rufous, begin to make their appearance at an early stage.

Hab. W. Africa.

a–c. ♂ ♀ ad. sk.	Fantee (*Gov. Ussher*).	Sharpe Coll.
d. ♀ ad. (head only).	Fantee (*Gov. Ussher*).	Sharpe Coll.
e. ♂ imm. sk.	Denkera (*Aubinn*).	Sharpe Coll.
f. ♂ ad. (head only).	Denkera (*Aubinn*).	Sharpe Coll.
g. ♂ ad. (head only).	Kaitzarako (*Aubinn*).	Sharpe Coll.
h. ♂ ad. sk.	Ashantee.	Gould Coll.
i. ♂ ad. sk.	River Niger.	Dr. Baikie [C.].
k. ♂ imm. sk.	Wasa.	Capts. Burton and Cameron.
l. ♂ ad. st.	Coast of Guinea.	
m. ♂ ad. (head only).	No locality.	

2. Ceratogymna atrata.

Buceros atratus, *Temm. Pl. Col.* ii. p. 69, pl. 558 (1834); *Gray, Gen. B.* ii. p. 399 (1847); *Hartl. J. f. O.* 1854, p. 127, 1855, p. 361; *id. Orn. W.-Afr.* pp. 162, 274 (1857); *Cass. P. Ac. Philad.* p. 139 (1859); *Schl. Mus. Pays-Bas*, i. Buceros, p. 18 (1862); *Bocage, J. Sc. Lisb.* ii. p. 347 (1868); *Sharpe, Cat. Afr. B.*

p. 8 (1871); *Sharpe, Ibis*, 1872, p. 62; *Ussher, Ibis*, 1874, p. 51; *Reich. J. f. Orn.* 1877, p. 18; *Bocage, Orn. Angola*, p. 113 (1881); *Hartl. Abh. nat. Ver. Brem.* viii. p. 208 (1882); *Büttikofer, Notes Leyd. Mus.* vii. p. 205 (1885).

Bucorvus atratus, *Bonap. Consp. Gen. Av.* i. p. 89 (1850).

Tmetoceros atratus, *Bonap. Consp. Vol. Anisod.* p. 2 (1854).

Sphagolobus atratus, *Cab. & Heine, Mus. Hein.* ii. p. 171 (1860); *Hein. J. f. O.* 1864, p. 188; *Elliot, Mon. Bucerot.* pl. 24 [text] (1877); *Bouvier, Cat. Ois. Marche etc.* p. 28 (1875); *Sharpe, J. L. S.* xvii. p. 436 (1884).

Buceros (Sphagolobus) atratus, *Gray, Hand-l. B.* ii. p. 131, sp. 7914 (1870); *Dubois, Bull. Mus. Belg.* iii. p. 199.

Ceratogymna atrata, *Shelley, Ibis*, 1888, p. 51; *Reich. J. f. O.* 1890, p. 114.

Buceros poensis, *Fras. Ann. Mag. N. H.* xv. p. 136 [♀] (1855).

Adult male. Crest, all the plumage of the wings and body, and the centre pair of tail-feathers black; rest of tail-feathers black, with the terminal quarter white; wing-coverts, back, rump, breast, and belly glossed with bronze or purplish green; the primaries, secondaries, and tail-feathers glossed with dark green; the uncovered bases of the primary quills blackish: upper mandible black, brownish at the base; lower mandible brownish black at the tip; casque large and swollen, apparently blackish brown. Total length 36 inches, wing 16, tail 13, tarsus 2·4.

Adult female. Differs from male in having the crest, sides and middle of throat, and upper part of neck chestnut, otherwise the plumage is as above: bill and casque black, reddish brown towards the middle; the casque smaller than in the male, and with a double furrow along the upper surface. Total length 32 inches, wing 14·7, tail 11·3, tarsus 2.

Young birds and *immature males* resemble the female, but the latter have some dark feathers mixed with the chestnut of the crest, and the back is only slightly glossed with dull green.

Hab. W. Africa, from Angola to Liberia, and inland to 5° N. lat. on White Nile.

a. ♂ imm.; *b.* ♀ juv. sk.; *c–e.* ♂ juv. (heads only).	Fantee (*Gov. Ussher*).	Sharpe Coll.
f–i. ♀ ad. et imm. sk.	Denkera (*Aubinn*).	Sharpe Coll.
k. ♀ imm. sk.	Denkera (*Blissett*).	Shelley Coll.
l. ♂ ad. sk.	Ashantee.	Gould Coll.
m. ♂ imm. sk.	Gaboon.	Verreaux Coll.
n. ♀ ad. sk.	Ogowé River.	H. Ansell, Esq. [P.].
o. ♂ ad. sk.	W. Africa.	Zool. Soc. Coll.
p, q. ♀ ad. et imm. st.	W. Africa.	Purchased.
r, s. ♂ ♀ ad.; *t.* ♂ imm. sk.	Semmio, Niam Niam country, Jan., Feb.	F. Bohndorff [C.].

12. ANORRHINUS.

Type.

Anorrhinus, *Reich. Syst. Av.* pl. xlix. (1849)..... A. galeritus.

Bill fairly large, somewhat curved and compressed; the basal

three-fifths of the culmen covered by a moderately elevated keel-shaped casque; throat naked; crest well developed, and composed of long soft feathers; tail rounded, basal three-quarters of feathers brownish grey, rest black; plumage dark.

Range. S. Tenasserim, Malay Peninsula, Sumatra, and Borneo.

1. Anorrhinus galeritus.

Buceros galeritus, *Temm. Pl. Col.* ii. p. 78, pl. 520 (1824); *Müll. et Schl. Verh. Ges. Ned. Ind.* pp. 23, 28 (1839–44); *Gray, Gen. B.* ii. p. 399 (1847); *Low, Sarawak*, p. 411 (1848); *Blyth, Cat. B. Mus. As. Soc.* p. 44 (1849); *Schl. Mus. Pays-Bas.* i. Buceros, p. 8 (1862).

Hydrocissa galeritus, *Bonap. Consp. Gen. Av.* i. p. 90 (1850).

Hydrocissa (Anthracoceros) galeritus, *Bonap. Consp. Vol. Anisod.* p. 2 (1854).

Anorrhinus galeritus, *Reich. Syst. Av.* pl. xlix. (1850); *Horsf. & Moore, Cat. B. Mus. E. Ind. Co.* ii. p. 594 (1856–58); *Moore, P. Z. S.* 1859, p. 450; *Cab. & Heine, Mus. Hein.* ii. p. 169 (1860); *Salvad. Ucc. Borneo*, p. 79 (1874); *Hume, Ibis*, 1875, p. 318; *Tweeddale, Ibis*, 1877, p. 292; *Hume & Dav. Str. F.* vi. p. 109 (1878); *Sharpe, Ibis*, 1879, p. 246; *Hume, Str. F.* ix. p. 86 (1880); *Elliot, Mon. Bucerot.* pl. 42 [text] (1880); *Sharpe, P. Z. S.* 1881, p. 793; *id. Ibis*, 1890, p. 16; *Elliot, Auk*, p. 9 (1891).

Buceros (Anorrhinus) galeritus, *Gray, Hand-l. B.* ii. p. 128, sp. 7877 (1870).

Buceros carinatus, *Blyth, J. As. Soc. Beng.* xiv. p. 187 (1845), & xvi. p. 996 (1847).

Adult male. Head, neck, back, rump, wings, and thighs brownish black glossed with dark green; middle of throat, breast, and belly dull chocolate-brown, rather paler on the abdomen and slightly glossy; under tail-coverts brownish grey; tail glossed with green, last two-fifths black, rest brownish grey: bill black. Total length 32 inches, wing 14·5, tail 11·6, tarsus 2.

Young male differs from the adult in having the crest much less developed; the greater and median wing-coverts, secondary quills, and long scapulars margined with pale buff on their outer webs; and the breast and belly pale brown: bill dull red at tip, pea-green at base (*J. Whitehead*).

As age increases the anterior parts of the bill become whitish yellow, and the base of the maxilla, basal half of the lower mandible, and upper part of the casque black. In this stage the plumage is quite similar to that of the adult. Gradually the black increases in area, till only a white line is visible along the base of the casque, and this also disappears in time.

Adult female does not differ except in size from the adult male. Total length 29 inches, wing 13·3, tail 11, tarsus 1·9.

Young female resembles young male.

Hab. S. Tenasserim, Malayan Peninsula, Sumatra, Borneo.

a. ♂ ad. sk.	Malawoon, March (*W. Davison*).	Hume Coll.
b. ♀ ad. sk.	Klang, Salangore, Feb. (*W. Davison*).	Hume Coll.

c–o. Ad. et imm. sk.	Malacca.	
p. Imm. sk.	Pinang.	Wallace Coll.
q. Ad. sk.	W. Coast of Sumatra.	Van Faber [C.].
r. Ad. sk.	Lampong, S.E. Sumatra (*E. C. Buxton*).	Tweeddale Coll.
s. ♂ ad. st.	Sumatra.	
t. Ad. sk.	Benkoka, N. Borneo.	J. Whitehead, Esq. [P.].
u. Imm. sk.	Baram, Sarawak.	C. Hose, Esq. [C.].
v–y. Ad. et imm. sk.	Lawas River.	Governor Ussher [C.].
z. Ad. sk.	[Philippines.]	
a'. Imm. sk.	Indian Archipelago.	

13. PTILOLÆMUS.

Like *Anorrhinus*, but with the throat feathered; tail brownish black, tipped with white; plumage brownish above, rufous-buff below.

Range. N. Cachar and N. Tenasserim Hills.

Key to the Species.

Sides of the head, chin, and throat rufous-buff ..... *tickelli*, p. 392.
Sides of the head, chin, and throat white ..... *austeni*, p. 393.

1. Ptilolæmus tickelli.

Buceros tickelli, *Blyth, J. As. Soc. Beng.* xxiv. p. 266 (1855); *Tickell, J. As. Soc. Beng.* xxiv. p. 285 (1855); *Blyth, J. As. Soc. Beng.* xxviii. p. 412 (1859); *Jerd. Ibis*, 1872, p. 5.
Tochus tickelli, *Tickell, Ibis*, 1864, p. 173, pl. iii.
Anorrhinus tickelli, *Blyth, Cat. Mamm. B. Burma*, p. 69 (1875); *Elliot, Mon. Bucerot.* pl. 43 [text] (1880); *Hume, Str. F.* ix. p. 86 (1880); *Oates, B. Brit. Burmah*, ii. p. 96 (1883); *Oates, ed. Hume's Nests & Eggs Ind. B.* iii. p. 76 (1890).
Ocyceros tickelli, *Hume, Nests & Eggs Ind. B.* p. 113 (1873); *Hume & Dav. Str. F.* vi. p. 103 (1878); *Hume, Str. F.* vii. p. 499 (1878); *Bingham, Str. F.* viii. p. 462 (1879), ix. p. 158 (1880).
Ocyceros tickelliæ, *Bingham, Str. F.* viii. p. 194 (1879).
Meniceros tickelliæ, *Hume, Str. F.* ii. p. 470 (1874).
Buceros (Anorrhinus) tickelli, *Dubois, Bull. Mus. Belg.* iii. p. 209 [part.] (1884).

Adult male. Lores rufous-buff; top of head and crest brown, with pale shaft-streaks and edged with rufous; back, rump, upper tail-coverts, scapulars, wing-coverts, and two central tail-feathers brown, more or less glossed with dull green; primaries, secondaries, and rest of tail-feathers blackish, glossed with dark green; primary-coverts, primaries, secondaries, and tail tipped with white, and these, together with the greater wing-coverts and scapulars, are narrowly margined with buff, which, in the middle of the outer web of the third to the eighth primaries, spreads to the shaft; sides of the head and underparts bright rufous-buff, darkest on the ear-coverts and paling towards the vent; front of shoulders buff: bill and casque yellowish white; tip of lower mandible light black, and

base saffron (*J. Darling*). Total length 28·5 inches, wing 13·2, tail 11·4, tarsus 1·9.

Young male with undeveloped casque differs from the adult in having the crest less developed and more strongly margined with rufous; and the feathers of the cheeks, throat, neck, and chest with white shaft-streaks: bill yellow, basal half underlaid greenish (*C. T. Bingham*).

Adult female. Differs from the male adult in having the lores the same colour as the rest of head; the primary-coverts and secondaries without white tips, and the buff on the middle of the outer web of the primaries much reduced in extent; the breast, belly, and especially the flanks, much duller and intermixed with brown: bill and slight casque black (*J. Darling*). Total length 27 inches, wing 12·4, tail 10·9, tarsus 1·8.

Hab. N. Tenasserim Hills.

a, b. ♂ ad. et imm. sk.	Thoungyeen River, Tenasserim, Mar., Oct. (*C. T. Bingham*).	Hume Coll.
c. ♂ imm. sk.	Thoungyeen River, June.	C. T. Bingham, Esq. [C.].
d. ♂ imm. sk.	Thoungyeen River, Oct. (*C. T. Bingham*).	Oates Coll.
e. ♀ ad. sk.	Thoungyeen River, Feb. (*C. T. Bingham*).	R. B. Sharpe, Esq. [P.].
f, g. ♂ ad. et imm. sk.	Houngthraw Valley, Feb., Dec.	C. T. Bingham, Esq. [C.].
h–p. ♂ ♀ ad. sk.	Thoungyah, Oct., Nov. (*J. Darling*).	Hume Coll.
q. ♀ ad. sk.	Road to Myawadee, Jan. (*W. Davison*).	Hume Coll.

2. Ptilolæmus austeni.

Anorrhinus galeritus, *Godw.-Aust.* (*nec Temm.*) *J. As. Soc. Beng.* xxxix. pt. ii. p. 96 (1870).

Anorrhinus austeni, *Jerd. Ibis*, 1872, p. 6; *Hume, Str. F.* iv. p. 493 (1876); *id. Str. F.* v. p. 117 (1877); *ibid.* vii. pp. 167, 499 (1878); *Oates, B. Brit. Burmah*, ii. p. 97 (1883); *Hartert, J. f. O.* (1889), pp. 195, 426.

Anorrhinus tickelli, *Godw.-Aust. Ibis*, 1878, p. 207.

Buceros (Anorrhinus) tickelli, *Dubois, Bull. Mus. Belg.* iii. p. 209 [part.] (1884).

Craniorrhinus corrugatus, *Blyth, J. As. Soc. Beng.* extra no. p. 69 (1875); *Hume, Str. F.* pp. 60, 117 (1877).

Nearly adult male. Closely resembles the adult male of *A. tickelli*, but has the sides of the head, chin, and throat white instead of rufous-buff; the rest of the underparts rather paler, and the secondaries are not tipped white; the upper parts, too, are of a greyer brown: bill yellowish brown, with an orange spot at the base of the mandible, and the rest of the soft parts as in *A. tickelli*. Total length 30 inches, wing 13, tail 11·5, tarsus 1·8.

Hab. Asalu, N. Cachar Hills, Hills S. of Dihing River (*Hartert*).

a. Nearly ad. sk.	Asalu, N. Cachar Hills.	Major H. H. Godwin-Austen [P.]. (Type of the species.)

14. OCYCEROS.

Ocyceros, *Hume, Nests & Eggs Ind. B.* p. 113 (1873) ..... Type. O. ginginianus.

Size small; bill moderate, curved, with or without a small keel-shaped casque; sides of the throat more or less naked; tail wedge-shaped; crest slight; plumage grey, below white or grey.

Range. Peninsula of India and Ceylon.

Key to the Species.

A. Bill with a small well-developed keel-shaped casque ..... *birostris*, p. 394.
B. Bill without a casque.
  a. Underparts grey; second pair of tail-feathers brownish black ..... *griseus*, p. 396.
  b. Underparts greyish white; second pair of tail-feathers black, with white ends ..... *gingalensis*, p. 397.

1. Ocyceros birostris.

Le Calao de Gingi, *Sonn. Voy. Ind. Orient.* ii. p. 214, pl. 120 (1782); *Levaill. Hist. Nat. d'Ois. l'Amér.* i. p. 32, pl. 15 (1801).
Gingi Hornbill, *Lath. Gen. Syn. Suppl.* i. p. 71 (1787).
Buceros birostris, *Scop. Del. Faun. et Flor. Insubr.* ii. p. 87 (1786); *Blyth, J. As. Soc. Beng.* xvi. p. 995 (1847).
Lophoceros birostris, *Elliot, Mon. Bucerot.* pl. 48 [text] (1878); *Swinhoe & Barnes, Ibis*, 1885, p. 62.
Ocyceros birostris, *Davids. & Wend. Str. F.* vii. p. 78 (1878); *Hume, Str. F.* vii. p. 205 (1878); *Butler, Str. F.* ix. p. 384 (1880); *Reid, Str. F.* ix. p. 22 (1881); *Davids. Str. F.* x. p. 296 (1882); *Oates, Hume's Nests & Eggs Ind. B.* iii. p. 74 (1890).
Buceros (Lophoceros) birostris, *Dubois, Bull. Mus. Belg.* iii. p. 212 (1884).
Buceros ginginianus, *Lath. Ind. Orn.* i. p. 146 (1790); *Shaw, Gen. Zool.* viii. p. 36 (1811); *Vieill. N. Dict. d'Hist. Nat.* iv. p. 594 (1816); *Dumont, Dict. Sc. Nat.* vi. p. 207 (1817); *Temm. Pl. Col.* ii. sp. 13 [text] (1824); *Merrem, Ersch u. Gruber, Encycl.* p. 285 (1824); *Blyth, J. As. Soc. Beng.* xii. pt. ii. p. 996 (1843); *Gray, Gen. B.* ii. p. 400 (1847); *Schleg. Mus. Pays-Bas*, i. Buceros, p. 11 (1862).
Penelopides ginginianus, *Cab. & Heine, Mus. Hein.* ii. p. 169 (1860).
Tockus ginginianus, *Bonap. Consp. Gen. Av.* i. p. 91 (1850).
Meniceros ginginianus, *Bonap. Consp. Vol. Anisod.* p. 3 (1854).
Ocyceros ginginianus, *Hume, Nests & Eggs Ind. B.* p. 113 (1873).
Buceros oxyurus, *Wagl. Syst. Av.* Buceros, no. 14 (1827).
Buceros gingianus, *Less. Traité Orn.* p. 253 (1831); *Gray, Gen. B.* ii. p. 400 (1847).
Meniceros (Ocyceros) ginginianus, *Ball, Str. F.* ii. p. 388 (1874).
Buceros cinerascens, *Hodgs. Icon. ined. in Brit. Mus., Passeres*, pl. 313 (no. 58); *Gray, Zool. Misc.* p. 85 (1844).
Meniceros bicornis, *Jerdon, B. Ind.* i. p. 248 (1862); *Blyth, Ibis*, 1866, p. 350; *Horne, P. Z. S.* 1869, p. 241; *Marshall, Str. F.* iii. p. 331 (1875); *Butler, Str. F.* iii. p. 457 (1875), iv. p. 37 (1876);

Marshall, Birds' Nests in India, p. 46 (1877); *Butler, Str. F.* v. p. 218 (1877).

Tockus bicornis, *Horsf. & Moore, Cat. B. Mus. E. Ind. Co.* ii. p. 597 (1856–58).

Ocyceros bicornis, *Fairb. Str. F.* v. p. 394 (1877).

Adult male. Ear-coverts and cheeks blackish grey; a wide superciliary stripe, chin, breast, under wing-coverts, and rest of underparts white; rest of the body grey, palest on the chest and nape, and inclining to brown on the back and tail; the primaries, except the first two, and secondaries, except the last four, are blackish brown, tipped with white; middle pair of tail-feathers longest and slightly, the outer pairs widely, tipped with white, all with a wide subterminal black band: end of the bill, upper part of the anterior half of the culmen, and lower half of the lower mandible yellowish white; casque (which is well developed and produced into a point anteriorly) and remainder of mandible black. Total length 24 inches, wing 8·8, tail 11, tarsus 1·8.

Adult female does not differ from the male in plumage, but the casque is abruptly truncated at right angles to the middle of the culmen. Total length 22·7 inches, wing 7·9, tail 10·2, tarsus 1·7.

Hab. Peninsula of India, never on the eastern side of the Bay of Bengal.

a. ♀ ad. sk.	Nepal.	B. H. Hodgson [P.].
b. ♂ ad. sk.	Dinapur (*Pinwill*).	Tweeddale Coll.
c, d. ♂ ♀ ad. sk.	N.W. Himalayas.	Capt. Stackhouse Pinwill [P.].
e. ♀ ad. sk.	Himalayas (*Griffiths*).	India Museum [P.].
f, g. ♂ ad. sk.	Oudh, Nov., Dec.	Hume Coll.
h. ♀ ad. sk.	Gondah (*Pinwill*).	Tweeddale Coll.
i. ♂ ad. sk.	Kumaon.	Tweeddale Coll.
k–m. ♂ ad. sk.	Etawah District, Jan.	Hume Coll.
n. ♀ ad. sk.	Futtehghur, Sept. (*A. Anderson*).	Hume Coll.
o. ♀ ad. sk.	Mhow, Nov.	Lieut.-Col. Swinhoe [P.].
p. ♂ ad. sk.	Kattiawar, April.	Capt. Lloyd [P.].
q. ♀ ad. sk.	Ahmedabad, Oct. (*Butler*).	Hume Coll.
r, s. ♂ ♀ ad. sk.	Khandeish.	Tweeddale Coll.
t–v. ♂ ♀ ad. et imm. sk.	Khandeish, Jan., June, Dec. (*Davidson*).	Hume Coll.
w. ♂ ad. sk.	Coonoor Ghât, Sept. (*R. G. W. R.*).	Tweeddale Coll.
x, y. ♂ ♀ ad. sk.	Mysore, Aug. (*R. G. W. R.*).	Tweeddale Coll.
z. ♂ ad. sk.	Madras.	India Museum [P.].
a'. ♂ ad. sk.	Madras.	— Cole, Esq. [P.].
b'. ♂ ad. sk.	Nursingpur, Jan.	Hume Coll.
c', d'. ♂ ad. et imm. sk.	Saugor (*Hooper*).	India Museum [P.].
e'. ♂ ad. sk.	Kamptee.	Dr. R. B. Hinde [P.].
f'–m'. ♂ ♀ ad. sk.	Raipur.	Hume Coll.

2. Ocyceros griseus.

Grey Hornbill, *Lath. Gen. Syn. Suppl.* i. p. 72 (1787).
Buceros griseus, *Lath. Ind. Orn.* i. p. 147 (1790); *Shaw, Gen. Zool.* viii. p. 40 (1811); *Vieill. N. Dict. d'Hist. Nat.* iv. p. 594 (1816); *Dumont, Dict. Sc. Nat.* vi. p. 212 (1817); *Merrem, Ersch u. Gruber, Encycl.* xiii. p. 285 (1824); *Gray, Gen. Birds,* ii. p. 400 (1847); *Schl. Mus. Pays-Bas,* i. Buceros, p. 11 (1862).
Buceros (Tockus) griseus, *Less. Traité Orn.* p. 252 (1831).
Tockus griseus, *Bonap. Consp. Gen. Av.* i. p. 91 (1850); *Fairbank, Str. F.* iv. p. 255 (1876), v. p. 395 (1877); *Elliot, Mon. Bucerot.* pl. 54 [text] (1877); *Butler, Cat. B. S. Bombay Pres.* p. 21 (1880); *Vidal, Str. F.* ix. p. 51 (1880); *Butler, Str. F.* ix. p. 384 (1880); *Davison, Str. F.* x. p. 352 (1883).
Rhinoplax griseus, *Bonap. Consp. Vol. Anisod.* p. 3 (1854).
Toccus griseus, *Bourdillon, Str. F.* iv. p. 387 (1876).
Alophius griseus, *Dubois, Bull. Mus. Belg.* iii. p. 216 (1884).
Buceros cineraceus, *Temm. Pl. Col.* ii. p. 80 (1824); *Gray, Gen. Birds,* ii. p. 400 (1847).
Tockus gingalensis, *Jerd. B. Ind.* i. p. 250 [part.] (1862); *id. Ibis,* 1866, p. 350, 1872, p. 5.

Adult male. Superciliary stripe, extending from the lores to the nape, and the chin greyish white; ear-coverts blackish grey and crown dark grey, neck and chest paler; all the feathers with whitish shaft-streaks; breast, inner side of shoulders, and thighs pale grey; belly whitish; vent and under tail-coverts rufous-buff; back, rump, and upper tail-coverts brownish grey; wing-coverts grey; bases of quills white; rest of primaries and secondaries blackish grey, slightly glossed with green, the third to the seventh primaries with white ends; middle and second pairs of tail-feathers brownish black, glossed with green; three outer pairs the same, but with the last inch and a half white: bill horny yellow, dull orange towards the base and black along the cutting-edge. Total length 22·5 inches, wing 8·4, tail 9·5, tarsus 1·7.

Adult female. Resembles the adult male in plumage, but the bill is paler and the basal part of the top of the culmen and a patch at the base of the lower mandible are black. Total length 18·5 inches, wing 7·7, tail 7·7, tarsus 1·6.

Immature birds have the wing-coverts and scapulars narrowly margined with buff, and the middle part of the outer web of the white-tipped primaries margined with white.

Hab. Western India, Khandeish to Travancore.

a. ♂ ad. sk.	Khandeish.	Tweeddale Coll.
b–d. ♂ ♀ ad. sk.	Khandala, April, May (*Fairbank*).	Hume & Tweeddale Colls.
e, f. ♂ ad. sk.	Bramagherries, April (*Davison*).	Hume Coll.
g, h. ♂ ad. sk.	Wynaad, May (*Davison*).	Hume Coll.
i. ♀ ad. sk.	Cardamun Hills, Feb. (*Elwes*).	Hume Coll.
k. ♂ ad. sk.	Mynall, April (*Bourdillon*).	Hume Coll.
l, m. ♂ ♀ ad. sk.	Travancore.	Gould Coll.
n, o. ♂ imm. sk.	Ramghaut, Jan.	Tweeddale Coll.
p. Ad. st.	Malabar.	Mr. Spinks [P.].

3. Ocyceros gingalensis.

Le Calao Gingala, *Levaill. Hist. Nat. d'Ois. l'Amér.* i. p. 47, pl. xxiii. (1801).

Buceros gingalensis, *Shaw, Gen. Zool.* viii. p. 37 (1811); *Merrem, Ersch u. Gruber, Encycl.* xiii. p. 285 (1824); *Temm. Pl. Col.* ii. p. 17 (1824); *Gray, Gen. B.* ii. p. 400 (1847); *Blyth, J. As. Soc. Beng.* xvi. p. 996 (1847); *Layard, Ann. Mag. N. H.* xiii. p. 260 (1854); *Schl. Mus. Pays-Bas*, i. Buceros, p. 12 (1862).

Tockus gingalensis, *Bonap. Consp. Gen. Av.* i. p. 91 (1850); *Jerdon, B. Ind.* i. p. 250 [part.] (1862); *Blyth, Ibis*, 1867, p. 296; *Holdsw. P. Z. S.* 1872, p. 425; *Legge, Ibis*, 1874, p. 14; *Elliot, Mon. Bucerot.* pl. 55 [text] (1877); *Hume, Str. F.* vii. p. 366 (1878); *Legge, B. Ceylon*, i. p. 275, pl. 14 (1878); *Parker, Taprobanian*, ii. p. 132 (1889).

Rhinoplax gingalensis, *Bonap. Consp. Vol. Anisod.* p. 3 (1854).

Alophius griseus, var. gingalensis, *Dubois, Bull. Mus. Belg.* iii. p. 216 (1884).

Buceros gingala, *Vieill. N. Dict. d'Hist. Nat.* iv. p. 600 (1816); *Dumont, Dict. Sci. Nat.* vi. p. 214 (1817).

Buceros pyrrhopygus, *Wagl. Syst. Av.* Buceros, no. 18 (1827).

Tockus griseus, *Layard, P. Z. S.* 1873, p. 204.

Adult male. Top of the head and crest brown; ear-coverts dark brown, each with pale shaft-stripes; rest of head, feathered parts of throat, inner side of shoulders, base of quills, breast, and belly white; back, rump, and upper tail-coverts brownish grey; wing-coverts and scapulars pearl-grey, with dark margins like the back; thighs pale grey; vent and under tail-coverts rufous-buff; primaries black, the third to the seventh tipped with white; secondaries blackish, lighter towards the edge of the outer web, and narrowly margined with pale buff; middle pair of tail-feathers blackish brown, slightly glossed with green; second pair the same, with the last inch and a half white; remaining feathers white, some black on the basal half of the outside pair: bill yellowish white, with a patch of black at the base of the upper mandible, just in front of the eye, and another beneath the lower mandible. Total length 23 inches, wing 8·2, tail 8·9, tarsus 1·7.

Adult female. Differs from the male only in the coloration of the bill, which is black with a white patch situated on the lower half of the upper mandible. Total length 21 inches, wing 7·7, tail 8·2, tarsus 1·6.

Immature males and females resemble the adults in plumage, but the three outer pairs of tail-feathers are black, with white ends like the second pair in the adult, the amount of white in the three outer pairs of feathers increasing at each moult till they become white.

In young the bill is pale greenish, brown at the base: iris leaden grey; eyelids dirty yellow-brown; feet pale dull green. (*Parker.*)

Hab. Ceylon.

a, *b*. ♂ ad. et imm. sk.	Ceylon, Sept.	W. V. Legge, Esq. [P.].
c–*v*. ♂ ♀ ad. et imm. sk.	Ceylon.	Tweeddale & Hume Colls.
w. Skull.		

15. LOPHOCEROS.

Type.

Lophoceros, *Hempr. & Ehr. Symb. Phys. Av.* fol. 2, footnote 8 (1828) ..... L. nasutus.
Alophius, *Hempr. & Ehr. t. c.* fol. aa, footnote 1 (1828) ..... L. erythrorhynchus.
Tockus, *Less. Traité Orn.* p. 252 (1831) ..... L. erythrorhynchus.
Rhynchoceros, *Gloger, Hand- u. Hilfsb.* p. 335 (1842) ..... L. melanoleucus.
Grammicus, *Reich. Syst. Av.* pl. xlix. (1849) .. L. nasutus.

Size small or very small. Bill moderate, curved, with or without a small keel-shaped casque; sides of throat more or less naked; tail subquadrate; moderate crest of soft feathers; plumage above variously coloured, below white *.

Range. Africa.

Key to the Species.

I. No white or pale grey line running from the nape down the middle of the back.
  A. Wing-coverts neither spotted nor margined with white.
    a. Breast and belly white.
      a'. Bill orange-red; four outer pairs of tail-feathers with white tips ..... *melanoleucus*, p. 399.
      b'. Basal part of lower mandible yellowish white; third and fourth pairs of tail-feathers black with white ends ..... *semifasciatus*, p. 401.
      c'. Basal part of lower mandible dark reddish black; third and fourth pairs of tail-feathers white ..... *fasciatus*, p. 402.
    b. Breast blackish grey; belly mixed with white ..... *hartlaubi*, p. 403.
  B. Wing-coverts spotted or margined with white.
    c. Wing-coverts spotted with white.
      d'. Middle pair of tail-feathers with black shafts ..... *monteiri*, p. 403.
      e'. Middle pair of tail-feathers with yellow shafts ..... *camurus*, p. 404.
    d. Wing-coverts margined with white.
      f'. Middle pair of tail-feathers with black shafts ..... *hemprichi*, p. 405.
      g'. Middle pair of tail-feathers with whitish shafts ..... *pallidirostris*, p. 406.
II. A white or pale buff line from the nape down the centre of the back.
  e. Middle pair of tail-feathers with white shafts.
    h'. Casque not developed ..... *nasutus*, p. 406.
    i'. A small but well-developed casque .... *epirhinus*, p. 408.

* *L. hartlaubi*, one of the smallest of all Hornbills, is a somewhat aberrant species, having the tail wedge-shaped and the colour of the plumage below dark grey.

f. Middle pair of tail-feathers with black or dark brown shafts.
k'. Wing-coverts spotted with white.
a''. Bill dark red.
*a*³. Forehead, cheeks, and sides of the head pure white; two outer tail-feathers white ..... *damarensis*, p. 411.
*b*³. Forehead, cheeks, and sides of the head blackish grey and white; two outer tail-feathers black and white ..... *erythrorhynchus*, [p. 409.
b''. Bill orange-yellow.
*c*³. Feathers on the chest white, edged with black.
*a*⁴. Middle primaries spotted with white on the outer web only .. *leucomelas*, p. 414.
*b*⁴. Middle primaries spotted on both webs with white ..... *elegans*, p. 415.
*d*³. Feathers on the chest white with black shafts ..... *flavirostris*, p. 412.
c''. Bill red, with yellowish-white extremity ..... *jacksoni*, p. 416.
l'. Wing-coverts not spotted with white. (Bill red, with yellowish-white extremity.) ..... *deckeni*, p. 416.

1. Lophoceros melanoleucus.

Le Calao couronné, *Levaill. Hist. Nat. d'Ois. Afr.* v. p. 117, pls. 234, 235 (1806).

Buceros melanoleucus, *Licht. Cat. Rer. Nat. Rar.* p. 8 (1793); *Gray, Gen. B.* ii. p. 400 (1847); *Hartl. Orn. Ost-Afr.* p. 164 (1857); *Schl. Mus. Pays-Bas*, i. Buceros, p. 12 (1862); *Finsch & Hartl. Vög. Ost-Afr.* p. 485 (1870); *Heugl. Orn. N.O.-Afr.* i. p. 720 (1871); *Fisch. & Reich. J. f. O.* 1879, p. 343, 1880, p. 141; *Böhm, J. f. O.* 1883, p. 168; *Shelley, P. Z. S.* 1885, p. 224.

Tockus melanoleucus, *Bonap. Consp. Gen. Av.* i. p. 91 (1850); *Hartl. J. f. O.* 1854, p. 128, 1861, p. 261; *id. Orn. W.-Afr.* p. 164 (1857); *Horsf. & Moore, Cat. B. Mus. E. Ind. Co.* ii. p. 597 (1856–58); *Gurney, Ibis*, 1862, p. 157; *Kirk, Ibis*, 1864, p. 327; *Sclat. P. Z. S.* 1864, p. 111; *Bocage, J. Sc. Nat. Lisb.* ii. p. 347 (1868); *Sharpe, P. Z. S.* 1870, p. 149; *Sharpe, Cat. Afr. B.* p. 9 (1871); *Gulliv. P. Z. S.* 1872, p. 16; *Sclat. Rev. List Vert. An.* p. 172 (1872); *Gurney, ed. Anderss. B. Damara-Land*, p. 208 (1872); *Sharpe, ed. Layard's B. S. Afr.* p. 127 (1875); *Reich. J. f. O.* 1875, p. 12; *Nichol. P. Z. S.* 1878, p. 358; *Bocage, Orn. Angola*, p. 116 (1881); *Elliot, Mon. Bucerot.* pl. 49 [text] (1880); *Shelley, P. Z. S.* 1881, p. 591; *Flower, P. Z. S.* 1890, p. 401.

Buceros (Lophoceros) melanoleucus, *Gray, Hand-l. B.* ii. p. 130, sp. 7906 (1870); *Dubois, Bull. Mus. Belg.* iii. p. 214 (1884), iv. p. 147 (1886).

Rhynchoceros melanoleucus, *Bonap. Consp. Vol. Anisod.* p. 3 (1854).

Lophoceros melanoleucus, *Cab. & Heine, Mus. Hein.* ii. p. 168 (1860); *Cab. V. d. Decken's Reis.* iii. p. 37 (1869); *id. J. f. O.* 1878, p. 235; *Schalow, J. f. O.* 1883, p. 348; *Fisch. J. f. O.* 1885, p. 126; *Shelley, Ibis*, 1888, p. 61.

Buceros coronatus, *Shaw* (*nec Bodd.*), *Gen. Zool.* viii. p. 35 (1811);

Vieill. N. Dict. d'Hist. Nat. iv. p. 593 (1816); *Vieill. Encycl. Méth.* i. p. 401, pl. 240. fig. 4 (1823); *Swains. Zool. Ill.* (1) iii. pl. 178 (1823); *Merrem, Ersch u. Gruber, Encycl.* xiii. p. 283 (1824); *Wagl. Syst. Av.* Buceros, no. 17 (1827); *Less. Traité Orn.* p. 253 (1831); *Des Murs, etc. in Lefebvre, Voy. Abyss.* p. 127 (1845–50); *Layard, B. S. Afr.* p. 225 (1867); *id. Ibis*, 1869, p. 372.

Toccus coronatus, *Gurney, Ibis*, 1861, p. 133.

Lophoceros alboterminatus, *Büttikofer, Notes Leyd. Mus.* xi. p. 67 (1889).

Adult male. Ear-coverts dark grey; rest of the head brownish black; most of the feathers over the eyes and on the sides of the crest with white ends; throat, neck, and chest greyish brown; back, rump, and upper tail-coverts brown; wing-coverts and scapulars dark brown margined with lighter; primaries and secondaries blackish brown, both narrowly margined on the outer web with pale buff; breast and rest of underparts, except the sides, which are grey, pure white; tail black, slightly glossed with dark green; the middle pair of tail-feathers slightly, and the remainder widely, tipped with white: bill and small casque red, darker along the cutting-edge, and with a narrow yellow band along the base. Total length 20·7 inches, wing 10·1, tail 9, tarsus 1·3.

Adult female resembles the adult male. Total length 17·3 inches, wing 9·2, tail 8·2, tarsus 1·3.

Young males and *females* resemble one another and differ from the adults in having the outer and central pairs of tail-feathers uniform dark brown, slightly margined with pale buff. The casque is only represented by a swelling on the basal half of the upper mandible, and the bill is yellow or orange.

Hab. Africa, S. of about 5° N. lat.

a, b. Ad. et imm. sk.	Mombasa.	R. B. Sharpe, Esq. [P.].
c. ♂ ad. sk.	Duruma, near Mombasa, Dec.	Dr. J. M. Hildebrandt [C.].
d, e. ♂ ♀ ad. sk.	Kilimanjaro.	F. J. Jackson, Esq. [P.].
f, g. ♂ ♀ nr. ad. sk.	Kilimanjaro.	H. H. Johnson, Esq. [C.].
h, i. ♂ ♀ ad. sk.	Pangani River (*Kirk*).	Shelley Coll.
k. ♂ ad. sk.	Dar-es-Salaam (*Kirk*).	Shelley Coll.
l. Imm. sk.	Shupanga, Shiré River (*Kirk*).	Livingstone Exped.
m, n. Imm. sk.	Zambesi.	Sir John Kirk [P.].
o–q. Ad. sk.	Zambesi (*Mellar*).	Sharpe Coll.
r. ♀ ad. sk.	Swaziland, June (*T. Buckley*).	Shelley Coll.
s. ♂ ad. sk.	Pinetown, Sept. (*T. L. Ayres.*)	Shelley Coll.
t. ♂ ad. sk.	Eland's Post, July (*Atmore*).	Sharpe Coll.
u–w. ♂ ♀ imm. sk.	Galungo, Loanda, Aug., Sept. (*Sala*).	Sharpe Coll.
x, y. ♂ ad. sk.	Rio Dande, July (*Sala*).	Sharpe Coll.
z. ♂ ad. sk.	Ambaca (*Anchieta*).	Sharpe Coll.
a'. Skull.		Zool. Soc. Coll.

2. Lophoceros semifasciatus.

Buceros semifasciatus, *Hartl. J. f. O.* 1855, pp. 356, 361; *Schl. Mus. Pays-Bas*, i. Buceros, p. 13 (1862); *Reich. J. f. O.* 1876, p. 43; 1877, p. 18 [part.]; *Büttikofer, Notes Leyd. Mus.* iv. p. 208 (1885).

Tockus semifasciatus, *Hartl. Orn. W.-Afr.* p. 163 [part.] (1857); *Sharpe, Ibis*, 1869, p. 192; *Sharpe, Cat. Afr. B.* p. 9 (1871); *Reich. J. f. O.* 1875, p. 13; *Elliot, Mon. Bucerot.* pl. 50 (lower fig.) [text] (1878); *Oustal. N. Arch. Mus.* (2) ii. p. 128 (1879); *Shelley, Ibis*, 1883, p. 558; *Hartert, J. f. O.* 1886, p. 595.

Lophoceros semifasciatus, *Shelley, Ibis*, 1888, p. 59; *Reich. J. f. O.* 1890, p. 115.

Buceros fasciatus, *Hartl. Orn. W.-Afr.* p. 163 [part.] (1857); *Gurney, Ibis*, 1859, p. 153.

Buceros (Lophoceros) fasciatus, var. semifasciatus, *Dubois, Bull. Mus. Belg.* iii. p. 215 (1884).

Adult male. Plumage resembles that of *L. fasciatus*, but only the *terminal third* of the third and fourth pairs of primaries is white*; small casque and bill yellowish white for the basal two-thirds, the remainder black; the latter colour extends backwards on either side in three stripes, the first traversing the side of the casque, the second, which is edged with red, the groove to the nostril, and the third the anterior half of the cutting-edge of the mandibles and terminating on the side of the lower mandible near the base. Total length 24 inches, wing 10·4, tail 9·2, tarsus 1·3.

Adult female. Similar to the adult male in all respects except the colour of the naked skin on the unfeathered parts of the throat, which is orange, whilst it is blue in the male. Total length 19·3 inches, wing 9·3, tail 8·2, tarsus 1·3.

Immature male has the white ends of the third and fourth pairs of tail-feathers tipped with black, otherwise the plumage resembles that of the adult; the markings of the bill are undefined, and the underside of the lower mandible is blackish; naked skin round eye and on throat fleshy.

Hab. W. Africa, from the Niger to Senegambia.

a. ♀ ad. sk.	Accra.	Sharpe Coll.
b. ♂ ad. sk.	Denkera (*Ussher*).	Shelley Coll.
c–g. ♂ ♀ ad. et imm. sk.	Fantee.	Sharpe Coll.
h. Imm. sk.	Fantee (*Aubinn*).	Shelley Coll.
i. ♀ ad. sk.	Gold Coast.	Shelley Coll.
k. ♀ ad. sk.	Ashantee.	Godfrey Lagden, Esq. [P.].
l. ♀ ad. sk.	Ashantee.	Gould Coll.
m. ♂ imm. sk.	Shonga, Nov.	W. A. Forbes, Esq. [P.].
n. ♀ ad. sk.	Ankobra River, Wassan.	Capts. Burton & Cameron [P.].
o, p. ♀ ad. et ♂ imm. sk.	Coast of Guinea.	Purchased.
q, r. ♀ ad. et imm. sk.	W. Africa.	Purchased.

* The amount of white on the third and fourth pairs of tail-feathers varies in some specimens; in two apparently fully adult female birds quite half of the tail-feathers are white and the fifth pair are also tipped with white.

3. Lophoceros fasciatus.

Le Calao longibande, *Levaill. Hist. Nat. Ois. d'Afr.* v. p. 115, pl. 233 (1806).

Buceros longibandus, ? *Wilkes, Encycl. Lond.* iii. p. 480 (1808).

Buceros fasciatus, *Shaw, Gen. Zool.* viii. p. 34 (1811); *Merrem, Ersch u. Gruber, Encycl.* xiii. p. 284 (1824); *Gray, Gen. B.* ii. p. 400 (1847); *Cranch, Tuckey's Exp. River Zaire*, App. 4, p. 407 (1819); *Jard. Ann. Mag. N. H.* xvii. p. 86 (1846); *Schl. Mus. Pays-Bas*, i. Buceros, p. 12 (1862); *Eyton, Osteol. Av.* p. 62 (1867); *Reich. J. f. O.* 1877, p. 18 [part.]; *Oustalet, N. Arch. Mus.* (2) ii. p. 69 (1879).

Tockus fasciatus, *Bonap. Consp. Gen. Av.* i. p. 91 (1850); *Cassin, P. Ac. Nat. Sci. Philad.* viii. p. 319 (1857); *Hartl. Orn. W.-Afr.* pp. 163, 274 [part.] (1857); *Cassin, P. Ac. Nat. Sci. Philad.* 1859, p. 140; *Bocage, Orn. Angola*, p. 123 (1881); *Elliot, Mon. Bucerot.* pl. 50 (upper fig.) [text] (1878); *Sharpe, J. Linn. Soc.* xvii. p. 435 (1884).

Grammicus fasciatus, *Bonap. Consp. Vol. Anisod.* p. 3 (1854).

Lophoceros fasciatus, *Cab. & Heine, Mus. Hein.* ii. p. 168 (1860); *Heine, J. f. O.* 1860, p. 188; *Shelley, P. Z. S.* 1888, p. 41; *id. Ibis*, 1888, p. 59; *Reich. J. f. O.* 1890, p. 114.

Buceros (Lophoceros) fasciatus, *Dubois, Bull. Mus. Belg.* iii. p. 214 (1884).

Buceros melanoleucus, *Vieill. (nec Licht.) N. Dict. d'Hist. Nat.* iv. p. 595 (1816); *Wagl. Syst. Av.* Buceros, no. 16 (1827).

Buceros semifasciatus, *Hartl. Orn. W.-Afr.* p. 163 [part.] (1857).

Adult male. A spot on the front of the shoulder, middle of breast, belly, front of thighs, under tail-coverts, and third and fourth pairs of tail-feathers white; remainder of plumage black; the back and wings glossed with purplish: naked skin round the eye and on unfeathered part of throat dark blue; iris dark brown: legs and feet dusky brown; bill and small casque yellowish white, except the anterior half of the casque, the end of the bill, and the whole base of the lower mandible, which are dusky red. Total length 23·5 inches, wing 11, tail 10·3, tarsus 1·3.

Adult female does not differ in plumage from the adult male, but the naked skin round the eye and on the throat is yellow instead of dark blue. Total length 20 inches, wing 9·4, tail 8·2, tarsus 1·3.

Immature birds have the third and fourth pairs of tail-feathers mixed irregularly with black. In one example the second and fifth pairs of tail-feathers are also mixed with white.

Hab. W. Africa, Angola to Gaboon; and north-eastwards to Equatorial Africa.

a. ♀ ad. sk.	Ogowé River.	H. Ansell, Esq. [P.].
b. ♀ ad. sk.	Ogowé River.	Shelley Coll.
c. ♂ ad. sk.	Gaboon (*Du Chaillu*).	Sharpe Coll.
d. ♂ imm. sk.	Chinchonxo, April (*Petit*).	Shelley Coll.
e. ♂ ad. sk.	Ivando (*Lucan & Petit*).	Shelley Coll.
f. ♂ ad. sk.	Semmio, Nyam-nyam, Feb.	F. Bohndorff [C.].
g. ♀ imm. sk.	Ndoruma, Nyam-nyam, Sept.	F. Bohndorff [C.].
h. ♂ ad. sk.	Kubbi, Equatorial Africa, July.	Emin Pasha [P.].
i–l. ♀ ad. et imm. sk.	Tingasi, Equatorial Africa, July, Aug., Sept.	Emin Pasha [P.].

4. Lophoceros hartlaubi.

Toccus hartlaubi, *Gould, P. Z. S.* 1860, p. 380; *Sharpe, Ibis*, 1870, p. 485; *id. Cat. Afr. B.* p. 9 (1871); *Elliot, Mon. Bucerot.* pl. 58 [text] (1881).
Buceros hartlaubi, *Reich. J. f. O.* 1877, p. 18; *Büttikofer, Notes, Leyd. Mus.* iv. p. 209 (1885).
Alophius hartlaubi, *Dubois, Bull. Mus. Belg.* iii. p. 69 (1884).
Lophoceros hartlaubi, *Shelley, Ibis*, 1888, p. 69.
Buceros nagtglassi, *Schl. Neder. Tijd. Dierk.* i. p. 56, pl. 2 (1862); *Schl. Mus. Pays-Bas*, i. Buceros, p. 16 (1862); *Sclater, Ibis*, 1863, p. 359, 1864, p. 398.
Tockus nagtglassi, *Bocage, Orn. Angola*, p. 541 (1881).

Adult male. A greyish-white superciliary stripe from the lores to the nape; top of the head, ear-coverts, and thighs blackish grey; feathers down the middle of the throat and on the neck blackish edged with pale grey; chest and rest of underparts pale grey, whitish on the middle of the belly and inside of the shoulders; back, rump, and upper tail-coverts greyish black; wings and tail black glossed with dark green; the three outer pairs of tail-feathers tipped with white: naked skin round the eye black, on the unfeathered parts of the throat yellow; legs and feet dusky black: bill blackish, crimson towards the tip; culmen compressed into a keel at the base. Total length 15 inches, wing 6·2, tail 6·6, tarsus 1.

Immature birds resemble the adult, but the ends of the greater coverts are tipped with white, and the inner primaries have each a white mark on the middle of the outer web; the bill is uniform black.

Hab. W. Africa.

a–c. Ad. et imm. sk.	Fantee (*Ussher*).	Sharpe Coll.
d, e. Ad. et imm. sk.	Gold Coast (*Kirby*).	Shelley Coll.
f. Ad. sk.	West Africa.	Gould Coll.

5. Lophoceros monteiri.

Toccus monteiri, *Hartlaub, P. Z. S.* 1865, p. 87, pl. v.; *Sharpe, Cat. Afr. B.* p. 9 (1871); *Gurney, ed. Anderss. B. Damara-Land*, p. 208 (1872); *Sharpe, ed. Layard's B. S. Afr.* p. 129 (1875); *Elliot, Mon. Bucerot.* pl. 53 [text] (1877); *Bocage, Orn. Angola*, p. 121 (1881).
Alophius monteiri, *Dubois, Bull. Mus. Belg.* iii. p. 219 (1884).
Lophoceros monteiri, *Shelley, Ibis*, 1888, p. 62.

Adult male. Head, throat, neck, and chest dark grey with blackish centres to the feathers, many of those on the sides of the head and nape tipped with white; back and scapulars brown, gradually becoming blackish on the rump and upper tail-coverts; under wing-coverts, base of quills, breast, and rest of underparts white; wing-coverts brown, blackish towards the extremity, and each with a subterminal white spot, except the inner primary and secondary greater coverts, which are nearly pure white; primaries blackish brown tipped with white, the last three very widely; the third to the seventh have a white spot on the middle of the outer web; secondaries pure white or very nearly so, except the last three,

which are drab-brown margined with white; middle and second pairs of tail-feathers blackish brown, rest white, with some black on the basal part of the third and fifth pairs: bill, very long and strong, yellowish red, becoming dark purple towards the extremities of the mandibles. Total length 23·4 inches, wing 8·9, tail 9·2, tarsus 2.

Adult female does not differ from the adult male in plumage, but the bill is not nearly so long and strong. Total length 21 inches, wing 7·8, tail 8·8, tarsus 2.

Hab. S. Africa, Damaraland and Benguela.

a, *b*. ♂ ad. sk.	Otjimbinque, Damaraland, June (*Andersson*).	Sharpe Coll.
c. Ad. sk.	Damaraland.	C. J. Andersson, Esq. [C.].
d. Ad. st.	Damaraland.	C. J. Andersson, Esq. [C.].
e. Ad. sk.	Benguela.	J. J. Monteiro, Esq. [C.]. (Type of species.)
f. Ad. sk.	Benguela (*Anchieta*).	Shelley Coll.
g. Ad. sk.		Tweeddale Coll.

6. Lophoceros camurus.

Tockus camurus, *Cassin, P. Ac. Nat. Sci. Philad.* 1857, p. 319, 1859, p. 140; *Heine, J. f. O.* 1860, p. 188; *Reichen. J. f. O*, 1875, p. 13; *Bouvier, Cat. Ois. Marche, etc.* p. 20 (1875); *Bocage. Orn. Angola*, p. 541 (1881); *Elliot, Mon. Bucerot.* pl. 59 [text] (1880); *Sharpe, J. Linn. Soc.* xvii. p. 436 (1884).

Buceros camurus, *Reichen. J. f. O.* 1877, p. 18; *Büttikofer, Notes Leyd. Mus.* iv. p. 210 (1885).

Alophius camurus, *Dubois, Bull. Mus. Belg.* iii. p. 220 (1884).

Lophoceros camurus, *Shelley, Ibis*, 1888, p. 62; *Reich. J. f. O.* 1890, p. 116.

Buceros pulchrirostris, *Schl. Ned. Tijd. Dierk.* i. p. 74, pl. 4 (1862); *Schl. Mus. Pays-Bas*, i. Buceros, p. 15 (1862); *Sharpe, Cat. Afr. B.* p. 9 (1871).

Tockus pulchrirostris, *Sharpe, Ibis*, 1870, p. 485; *id. P. Z. S.* 1871, p. 604.

Adult. Head, neck, back, and under wing-coverts rufous-brown, shading to rufous on the lower back, rump, and upper tail-coverts; feathers of the chest brown with white ends, rest of underparts white, thighs mixed with brownish buff; wing-coverts brown, lesser with more or less marked subterminal white spots, median and greater with white ends forming two oblique white bars across the wing; base of the quills buff; primaries blackish, the first two and the last three spotted with buff on the inner web only, the remainder on both; secondaries blackish brown slightly glossed, edged on the outer web and spotted on the inner with buff, except the last three secondaries, which have a complete buff margin; the tail is brown slightly glossed, narrowly margined with buff and tipped with white. Total length 11 inches, wing 6·1, tail 5·5, tarsus 1·2.

Bill bright scarlet. In some specimens the point of the bill is black; whether or not this is characteristic of age or sex is unknown.

Hab. Western and Central Africa.

a. Ad. sk.	North bank of Congo.	Spencer Shield, Esq. [P.].
b. Ad. sk.	Elobe district, Gaboon.	H. Ansell, Esq. [P.].
c, *d*. Ad. sk.	Gaboon (*Walker*).	Sharpe Coll.
e. Ad. sk.	Cameroons Mountains, Feb. (*Crossley*).	Sharpe Coll.
f, *g*. Ad. sk.	Fantee (*Aubinn*).	Sharpe Coll.
h, *i*. Ad. sk.	Fantee (*Ussher*).	Sharpe Coll.
k. Ad. sk.	Fantee (*Ussher*).	Shelley Coll.
l. Ad. st.	Ashantee.	Gould Coll.
m. Ad. sk.	Ashantee.	Godfrey Lagden, Esq. [P.].
n. Ad. sk.	Sassa, Nyam-nyam, Oct.	Dr. F. Bohndorff [C.].

7. Lophoceros hemprichi.

Buceros (Lophoceros) hemprichii, *Ehrenb. Symb. Phys. Av.* fol. aa, footnote 3 (1828).

Toccus hemprichi, *Blanf. Geol. & Zool. Abyss.* p. 326 (1870); *Antin. e Salvad. Ann. Mus. Civ. Gen.* p. 417 (1873); *iid. Cat. Ucc.* p. 54 (1873); *Elliot, Mon. Bucerot.* pl. 52 [text] (1877); *Salvad. Ann. Mus. Civ. Genov.* p. 103 (1884); *Hartert, Cat. Mus. Senckenb. Frankf.* p. 139 (1891).

Buceros hemprichi, *Finsch, Trans. Zool. Soc.* viii. p. 317 (1870); *Heugl. Orn. N.O.-Afr.* pp. 721 & clv (1871); *Dress. & Blanf. Ibis*, 1874, p. 338.

Alophius hemprichii, *Dubois, Bull. Mus. Belg.* iii. p. 215 (1884).

Lophoceros hemprichi, *Shelley, Ibis*, 1888, p. 60.

Buceros limbatus, *Rüpp. Faun. Abyss.*, *Vög.* p. 5, pl. ii. fig. 1 (1835); *Gray, Gen. B.* ii. p. 400 (1847); *Schl. Mus. Pays-Bas*, i. Buceros, p. 13 (1862); *Heugl. J. f. O.* p. 270 (1864); *Finsch, Tr. Z. S.* vii. p. 279 (1870)

Tockus limbatus, *Rüpp. Syst. Uebers. Vög. N.O.-Afr.* p. 79 (1845); *Bonap. Consp. Gen. Av.* i. p. 92 (1850); *Horsf. & Moore, Cat. B. Mus. E. Ind. Co.* ii. p. 596 (1856–58); *Sharpe, Cat. Afr. B.* p. 9 (1871).

Grammicus limbatus, *Bonap. Consp. Vol. Anis.* p. 3 (1854).

Lophoceros limbatus, *Cab. & Heine, Mus. Hein.* ii. p. 168 (1860).

Adult male. Head, feathered parts of throat, neck, chest, least wing-coverts, back, and rump dark brown, some of the feathers on the sides of the head with whitish ends; inner side of shoulders, breast, and rest of underparts white; median and greater wing-coverts, scapulars, quills, middle, second, and fifth pairs of tail-feathers blackish brown, white at the base, and mostly margined with white, widest on the wing-coverts; third and fourth pairs of tail-feathers white; naked skin round the eye and on the unfeathered parts of the throat black: bill dull red, whitish on the basal part of the upper mandible. Total length 25 inches, wing 11·7, tail 10·5, tarsus 1·6.

Adult female. Resembles adult male, but naked skin on the unfeathered parts of the throat yellowish.

Immature bird differs from the adult in having the basal part of the third and fourth pairs of tail-feathers mixed with black, the white edging to the secondaries and coverts wider; the naked skin round the eye and on the throat is yellowish.

Hab. N.E. Africa.

a. Ad. sk.	Senafé, Abyssinia (*Jesse*).	Tweeddale Coll.
b. ♀ imm. sk.	Senafé, Abyssinia, May (*Jesse*).	Sharpe Coll.
c. ♀ ad. sk.	Tigré, Abyssinia, March.	W. T. Blanford, Esq. [C.].
d. Imm. sk.	Abyssinia.	Shelley Coll.
e. Ad. sk.	Abyssinia.	Hume Coll.
f. ♀ ad. sk.	Shoa, May (*Antinori*).	Shelley Coll.
g, *h*. ♂ ♀ ad. sk.	Ankober, Shoa, Feb. (*Harris*).	India Museum.
i. Sternum and sacral vertebræ.	Abyssinia.	

8. Lophoceros pallidirostris.

Buceros pallidirostris, *Finsch u. Hartl. Vög. Ostafr.* p. 871 (1870); *Bocage, J. Sc. Lisb.* ii. p. 348 (1870).
Tockus pallidirostris, *Bocage, Orn. Angola*, p. 117 (1881).
Lophoceros pallidirostris, *Shelley, Ibis*, 1888, p. 64.
Tockus melanoleucus, *Sharpe, ed. Layard's B. S. Afr.* p. 128 [part.] (1884).
Buceros (Lophoceros) nasutus, var. dubia, *Dubois, Bull. Mus. Belg.* iii. p. 213, pl. x. fig. 2 (1884).

Adult male. A broad white superciliary stripe extending to the nape; rest of head, feathered parts of throat, neck, chest, and thighs grey, the two latter inclining to brownish, and most of the feathers on the forehead and chest with dark centres; back, rump, and upper tail-coverts brown; wings dark brown; the wing-coverts and secondaries edged with white; inner side of shoulders, breast, and rest of underparts white; tail blackish brown, the centre pair of feathers edged and slightly tipped with white, the outer pairs with the last inch white: bill and small casque yellowish white. Total length 22 inches, wing 9·7, tail 9, tarsus 1·6.

Hab. Caconda, Benguela, and Lake Tanganyika.

a. ♂ ad. sk.	Caconda, Benguela, May (*Anchieta*).	Shelley Coll.
b. ♂ ad. sk.	Caconda, Benguela, Dec. (*Anchieta*).	Prof. B. du Bocage [P.].

9. Lophoceros nasutus.

Le Calao à bec noir du Sénégal, *Briss. Orn.* iv. p. 573 [♂] (1760); *Daubent. Pl. Enl.* no. 890 [♂].
Le Tock, *Buff. Hist. Nat. Ois.* vii. p. 141 [part.] (1780).
Black-billed Hornbill, *Lath. Gen. Syn.* i. p. 354 (1781).
Le Calao nasique, *Levaill. Hist. Nat. Ois. d'Afr.* v. p. 120, pl. 236 (1806).
Buceros nasutus, *Linn. Syst. Nat.* i. p. 154 (1766); *Gm. S. N.* i. p. 361 (1788); *Lath. Ind. Orn.* i. p. 145 (1790); *Shaw, Gen. Zool.* viii. p. 30 [part.] (1811); *Vieill. N. Dict. d'Hist. Nat.* iv. p. 600 (1816); *Wagl. Syst. Av.* Buceros, no. 19 (1827); *Gray, Gen. B.* ii. p. 400 (1847); *Hartl. Orn. W.-Afr.* p. 164 (1857); *Schl. Mus. Pays-Bas*, i. Buceros, p. 13 (1862); *Layard, B. S. Afr.* p. 227 (1867); *Finsch & Hartl. Vög. Ostafr.* p. 486 (1870); *Finsch, Tr. Z. Soc.* vii. p. 277 (1870); *Heugl. Orn. N.O.-Afr.* i. pp. 723 & clv (1871); *Finsch & Reich. J. f. O.* 1878, p. 254; *Hartl. Abh. nat. Ver. Brem.* viii. p. 111 (1881); *Böhm, J. f. O.* 1883, p. 169.

Tockus nasutus, *Rüpp. Syst. Uebers. Vög. N.O.-Afr.* p. 79 (1845); *Bonap. Consp. Gen. Av.* i. p. 91 (1850); *Hartl. J. f. O.* 1854, p. 128; *id. Orn. W.-Afr.* p. 164 (1857); *id. J. f. O.* 1861, p. 261; *Horsf. & Moore, Cat. B. Mus. E. Ind. Co.* ii. p. 596 (1856–58); *Heugl. J. f. O.* 1864, p. 271; *Blanf. Geol. & Zool. Abyss.* p. 329 (1870); *Sharpe, Cat. Afr. B.* p. 9 [part.] (1871); *Shelley & Buck. Ibis*, 1872, p. 286; *Antin. & Salvad. Ann. Mus. Civ. Gen.* p. 418 (1873); *id. Cat. Ucc.* p. 55 (1873); *Bouvier, Cat. Marche, etc.* p. 27 (1875); *Hartert, J. f. O.* 1886, p. 596.

Buceros nasutus, var. senegalensis *et* orientalis, *Sunder. Œfv. Kongl. Vet.-Ak. Förh.* pp. 108, 130 (1850).

Grammicus nasutus, *Bonap. Consp. Vol. Anisod.* p. 3 (1854).

Lophoceros nasutus, *Cab. & Heine, Mus. Hein.* ii. p. 167, footnote (1860); *Elliot, Mon. Bucerot.* pl. 47 [text, part.] (1877); *Cab. J. f. O.* 1878, p. 236; *Schalow, J. f. O.* 1883, p. 348; *Salvad. Ann. Mus. Civ. Gen.* p. 103 (1884); *Finsch, J. f. O.* 1885, p. 126; *Shelley, Ibis*, 1888, p. 63.

Buceros (Lophoceros) nasutus, *Dubois, Bull. Mus.* iii. p. 212 [part.] (1884).

Buceros nasica, *Cuv. Règne Anim.* i. p. 419, footnote (1817).

Buceros (Lophoceros) forskalii, *Hempr. & Ehrenb. Symb. Phys. Av.* folio z, footnote 8 (1828); *Dress. & Blanf. Ibis*, 1874, p. 337.

Lophoceros forskalii, *Cab. & Heine, Mus. Hein.* ii. p. 167 (1860).

Buceros (Lophoceros) hemileucos, *Hempr. & Ehrenb. Symb. Phys. Av.* folio aa, footnote 2 (1828); *Dress. & Blanf. Ibis*, 1874, p. 388.

Buceros hastatus, *Cuv. Règne Anim.* i. p. 446, footnote (1829).

Buceros (Tockus) hastatus, *Less. Traité Orn.* p. 252 (1831).

Grammicus hastatus, *Bonap. Consp. Vol. Anisod.* p. 3 (1854).

Buceros pœcilorhynchus, *La Fres. Rev. Zool.* p. 257 (1839); *Gray, Gen. B.* ii. p. 400 (1847); *Schl. Mus. Pays-Bas*, i. Buceros, p. 14 (1862).

Tockus pœcilorhynchus, *Bonap. Consp. Gen. Av.* i. p. 91 (1850); *Hartl. J. f. O.* 1854, p. 193; *id. Orn. W.-Afr.* p. 164 (1857); *id. J. f. O.* 1861, p. 261; *Heugl. J. f. O.* 1864, p. 271.

Adult male. A broad white superciliary stripe on either side, extending backwards on the sides of the crest, rest of the head and neck grey, most of the feathers blackish along the shafts; back, rump, and upper tail-coverts brown; feathers down the centre pale whitish buff and forming a median line from the nape to the tail; wing-coverts and scapulars brown, darkest in the middle and edged with pale buff; quills dark brown, mostly tipped with white; outer secondaries margined with pale buff, inner primaries and secondaries edged on the outer web with the same; chest brownish grey with dark shaft-stripes; inner side and front of shoulders, breast, and rest of underparts white; tail dark brown, centre pair of feathers narrowly edged all round with buff and tipped with white, and the rest widely tipped with white: bill and rudimentary casque black, with a white streak on the basal half of the upper mandible above the cutting-edge; lower mandible with five or more obliquely transverse narrow white ridges. Total length 20 inches, wing 8·9, tail 8, tarsus 1·4.

Adult female does not differ from the adult male in plumage, but the bill is red, with a much larger white patch on the basal part

of the upper mandible, and the base of the lower mandible is black. Total length 18 inches, wing 8·5, tail 7·3, tarsus 1·4.

The young male resembles the adult female in the coloration of the bill, but the white patch is small as in the adult male, and the centre tail-feathers are tipped with white.

In still younger specimens the outer and centre pairs of tail-feathers show only faint traces of white tips, and the other white-tipped feathers have subterminal black spots.

Hab. N.E. and W. Africa.

a. ♀ ad. sk.	5th Cataract of the Nile.	F. Galton, Esq. [P.].
b, c. ♂ ♀ ad. st.	5th Cataract of the Nile.	F. Galton, Esq. [P.].
d, e. ♂ ♀ ad. sk.	Ain, Massowah, July.	W. T. Blanford, Esq. [C.].
f, g. ♀ ad. sk.	Ain, July (*Jesse*).	Sharpe Coll.
h. ♂ ad. sk.	Bogosland.	Shelley Coll.
i. ♀ ad. sk.	Mohaber, Abyssinia, July (*Jesse*).	Sharpe Coll.
k. ♂ ad. sk.	Mohaber, Abyssinia, July (*Jesse*).	Tweeddale Coll.
l. ♂ imm. sk.	Abyssinia, Jan.	Dr. Rüppell [C.].
m. ♂ ad. sk.	Abyssinia (*Jesse*).	Sharpe Coll.
n. ♂ ad. st.	Geddem, Dec. (*Harris*).	India Museum.
o, p. ♂ ad. et imm. sk.	River Gambia.	Sharpe Coll.
q, r. ♀ ad. sk.	River Gambia.	Shelley Coll.
s, t. ♂ ♀ ad. sk.	Accra, Feb. (*G. E. S.*).	Shelley Coll.
u. ♂ ad. sk.	Niger (*Baikie*).	Sharpe Coll.
v. ♂ ad. sk.	Niger.	Dr. Baikie [C.].
w. ♂ ad. st.	No locality.	
x. Skeleton.	Abyssinia.	Jesse Coll.
y. Sternum.	Abyssinia.	W. T. Blanford, Esq. [P.].

10. **Lophoceros epirhinus.**

Buceros epirhinus, *Sundev. Œfv. Kongl. Veten.-Ak. Förh.* p. 108 (1850).

Lophoceros epirhinus, *Cab. & Heine, Mus. Hein.* ii. p. 167, footnote (1860); *Holub u. Pelz. Orn. Südafr.* p. 140 (1882); *Shelley, Ibis*, 1888, p. 64.

Buceros nasutus, var. caffer, *Sundev. Œfv. Kongl. Veten.-Ak. Förh.* p. 108 (1850).

Tockus pœcilorhynchus, *Kirk* (*nec La Fres.*), *Ibis*, 1864, p. 327.

Buceros nasutus, *Ayres* (*nec Linn.*), *Ibis*, 1871, p. 260; *ibid.* 1879, p. 285.

Tockus nasutus, *Sharpe, Cat. Afr. B.* p. 9 [part.] (1871); *Gurney, ed. Anderss. B. Damara-Land*, p. 206 (1872); *Buckley, Ibis*, 1874, p. 365; *Sharpe, ed. Layard's B. S. Afr.* p. 641 (1875); *Bocage, Orn. Angola*, p. 118 (1881); *Sharpe, in Oates's Matabele Land*, App. p. 304 (1881).

Lophoceros nasutus, *Elliot, Monog. Bucerot.* pl. 47 [text, part.] (1877).

Buceros (Lophoceros) nasutus, *Dubois, Bull. Mus. Bely.* iii. p. 212 [part.] (1884).

Adult male. Exactly like the male of *L. nasutus*, but the upper mandible is provided with a small well-developed casque, produced

into a point anteriorly; the ends of the quills are not tipped with white.

Adult female. Like the female of *L. nasutus*, but with a small casque, which is not produced into a point anteriorly.

Hab. S. Africa.

a. ♂ ad. sk.	Ovaquenyama, June (*Andersson*).	Shelley Coll.
b. ♂ ad. sk.	Ondongo, Ovampoland, Jan. (*Andersson*).	Sharpe Coll.
c, d. ♂ ad. et imm. sk.	Damaraland (*Andersson*).	Sharpe Coll.
e. ♂ ad. sk.	Zambesi (*Kirk*).	LivingstoneExped.
f, g. ♂ ♀ ad. sk.	Zambesi (*Bradshaw*).	Shelley Coll.
h. ♂ ad. sk.	Kanye, Matabele (*Exton*).	Sharpe Coll.
i. ♂ ad. sk.	Matabele.	W.E. & C.G.Oates, Esqrs. [P.].
k, l. ♂ ad. et ♀ imm. sk.	Transvaal (*Ayres*).	Sharpe Coll.
m. ♀ ad. sk.	Rustenburg, June (*Ayres*).	J. H. Gurney Esq. [P.].
n. ♂ ad. sk.	Limpopo River, Nov. (*Buckley*).	Shelley Coll.
o. ♀ ad. sk.	Bamangwato, Aug. (*Buckley*).	Shelley Coll.

11. Lophoceros erythrorhynchus.

Le Calao à becque rouge du Sénégal, *Briss. Orn.* iv. p. 575 (1760); *Daubent. Pl. Enl.* no. 260.

Le Tock, *Buff. Nat. Hist. Ois.* vii. p. 141 [part.] (1780).

Var. A, Red-billed Hornbill, *Lath. Gen. Syn.* i. p. 355 (1781).

Le Calao Toc, *Levaill. Hist. Nat. Ois. d'Afr.* v. p. 122, pl. 238 (1806).

Buceros nasutus, *Vieill.* (*nec Linn.*) *Encycl. Méth.* i. p. 305, pl. 10. fig. 3 (1823).

Buceros erythrorhynchus, *Temm. Pl. Col.* ii. sp. 19 [text] (1823); *Merrem, Ersch u. Gruber, Encycl.* xiii. p. 284 (1824); *Wagl. Syst. Av.* Buceros, no. 20 (1827); *Gray, Gen. B.* ii. p. 400 (1847); *Thom. Exp. Niger*, i. p. 250 (1848); *Hartl. Orn. W.-Afr.* p. 165 (1857); *Schl. Mus. Pays-Bas*, i. Buceros, p. 14 (1862); *Layard, B. S. Afr.* p. 227 (1867); *Ayres, Ibis*, 1869, p. 296; *Finsch, Tr. Zool. S.* vii. p. 278 (1870); *Finsch & Hartl. Vög. W.-Afr.* p. 491 (1870); *Heugl. Orn. N.O.-Afr.* i. pp. 727 & clv (1871); *Hartl. Abh. nat. Ver. Brem.* vii. p. 112 (1881); *Böhm, J. f. O.* 1883, p. 169.

Buceros (Tockus) erythrorhynchus, *Less. Traité Orn.* p. 252 (1831).

Tockus erythrorhynchus, *Rüpp. Syst. Uebers. Vög. N.O.-Afr.* p. 79 (1845); *Bonap. Consp. Gen. Av.* i. p. 92 (1850); *id. Consp. Vol. Anisod.* p. 3 (1854); *Hartl. J. f. O.* 1854, p. 193; *Horsf. & Moore, Cat. B. Mus. E. Ind. Co.* ii. p. 595 (1856–58); *Hartl. Orn. W.-Afr.* p. 165 (1857); *Kirk, Ibis*, 1864, p. 327; *Heugl. J. f. O.* 1864, p. 271; *Antin. Cat. descr. Uce.* p. 78 (1864); *Sharpe, Ibis*, 1867, p. 192; *Bocage, J. Sc. Lisb.* i. p. 335 (1866), ii. p. 348 (1868); *Blanf. Geol. & Zool. Abyss.* p. 328 (1870); *Sharpe, Cat. Afr. B.* p. 9 (1871); *Gurney, ed. Anderss. B. Damara-Ld.* p. 211 [part.] (1872); *Sclat. Rev. List Vert. An.* p. 172 (1872); *Antin. & Salv. Ann. Mus. Civ. Genov.* iv. p. 417 (1873); *Salvad. Uce. Bogos*, p. 54 (1874); *Buckley, Ibis*, 1874, p. 365; *Sharpe, ed. Layard's B. S. Afr.* p. 131

(1875); *Bouvier, Cat. Marche, etc.* p. 27 (1875); *Elliot, Mon. Bucerot.* pl. 56 [text] (1878); *Bocage, Orn. Angola*, p. 120 (1881); *Holub u. Pelz. Orn. Südafr.* p. 141 (1882); *Sharpe, J. Linn. Soc.* xvii. p. 435 (1884); *Salvad. Ann. Mus. Civ. Genov.* xxi. pp. 103, 262 (1884); *Ayres, Ibis*, 1886, p. 289; *Hartert, J. f. O.* 1886, p. 596.

Rhynchaceros erythrorhynchus, *Cab. & Heine, Mus. Hein.* ii. p. 166 (1860); *id. J. f. O.* 1878, p. 235; *Schalow, J. f. O.* 1883, p. 348; *Fisch. Zeit. ges. Orn.* i. p. 362 (1884); *id. J. f. O.* 1885, p. 126.

Alophius erythrorhynchus, *Dubois, Bull. Mus. Belg.* iii. p. 218 (1884).

Lophoceros erythrorhynchus, *Shelley, Ibis*, 1888, p. 65.

Buceros erythrorhynchus, var. caffer, *Sundev. Œfv. Kongl. Vet.-Akad. Förh.* p. 108 (1850); *Heugl. Ibis*, 1859, p. 343.

Buceros (Alophius) erythrorhynchus, var. leucopterus, *Hempr. & Ehrenb. Symb. Phys. Av.* folio aa, footnote 1 (1828).

Buceros rufirostris, *Sundev. Œfv. Kongl. Vet.-Akad. Förh.* p. 108 (1850).

Adult male. Top of the head dark grey tinged with brown; lores and a broad stripe over the eye white, with dark shafts; ear-coverts, cheeks, and sides of neck white edged with grey; nape, middle line of the upper half of the back, feathered parts of throat, front of neck and rest of underparts, under wing-coverts and base of quills white; rest of back brown, becoming almost black on the rump and upper tail-coverts; wing-coverts brown with large terminal spots of white, except the majority of the greater secondary coverts, which are nearly pure white; primaries black, the first two and the eighth (usually) spotted with white on the inner web only, the intermediate ones on both, and the remaining quills immaculate; first secondary black, next three the same but margined on the upper half of the outer web and spotted on the inner with white, the fifth to the seventh have the terminal half white; remaining secondaries and long scapulars dark drab, the former margined with white; centre tail-feathers dark brown, second pair black, remainder black with the terminal quarter white, the fourth pair with a subterminal *fenestra* of white in the black, which in the fifth pair is enlarged into a great white space sometimes extending nearly to the base of the feathers: naked skin round eye and on throat yellow; iris brown; legs dusky; bill red, blackish at the base of the lower mandible. Total length 21 inches, wing 7·9, tail 8·2, tarsus 1·7.

Adult female. Resembles the adult male in every particular except that the bill is not quite so long. Total length 17·9 inches, wing 7·8, tail 8·1, tarsus 1·6.

Immature birds have more feathers on the throat than the adults, and the base of the lower mandible is not black; the plumage is as above.

Hab. Africa S. of about 17° N. lat.

a. ♂ ad. sk.	5th Cataract of the Nile.	F. Galton, Esq. [P.].
b. Imm. sk.	Bogosland (*Esler*).	Purchased.
c. Imm. sk.	Rayrayguddy, May (*Jesse*).	Sharpe Coll.
d. ♂ ad. sk.	Mayen, Feb.	W. T. Blanford, Esq. [C.].

e. ♀ ad. sk.	Sambar, July.	W. T. Blanford, Esq. [C.].
f. ♀ imm. sk.	Abyssinia, Oct.	Dr. Rüppell [C.].
g. ♂ imm. sk.	Efát, Shoa, April (*Harris*).	India Museum [P.].
h. ♀ imm. sk.	Dembo, Nyam-nyam, June.	Dr. F. Bohndorff [C.].
i. ♀ imm. sk.	Malémboa, Ukamba, July.	Dr. Hildebrandt [C.].
k. Ad. sk.	Makalaka (*Bradshaw*).	Shelley Coll.
l. Ad. sk.	Zambesi (*Bradshaw*).	Shelley Coll.
m. Imm. sk.	Tette, May (*Kirk*).	Livingstone Exped.
n. ♀ imm. sk.	Matabele, Sept. (*Buckley*).	Shelley Coll.
o. ♀ imm. sk.	Transvaal (*Ayres*).	Shelley Coll.
p. ♀ ad. sk.	Limpopo River (*Ayres*).	Sharpe Coll.
q. ♀ imm. sk.	Limpopo River, July (*T. L. Ayres*).	J. H. Gurney, Esq. [P.].
r. Ad. st.	S. Africa.	Sir A. Smith [P.].
s–v. ♂ ♀ ad. et imm. sk.	Ondonga, Ovampoland, Jan. (*Andersson*).	Sharpe Coll.
w. ♀ ad. sk.	Ondonga, Jan. (*Andersson*).	Shelley Coll.
x. ♂ imm. sk.	Damaraland (*Andersson*).	Shelley Coll.
y, z. ♂ ♀ ad. sk.	Damaraland (*Andersson*).	Sharpe Coll.
a'. ♂ ad. sk.	Elephant Vley, Sept. (*Andersson*).	Shelley Coll.
b'. ♂ imm. sk.	Elephant Vley, Aug. (*Andersson*).	Sharpe Coll.
c'. ♂ ad. sk.	Capangombe, Mossamedes (*Anchieta*).	Sharpe Coll.
d'. ♂ ad. sk.	Rufisque, Senegal.	L. Laglaize [C.].
e', f'. ♂ ♀ ad. sk.	Rufisque, Senegal, Nov. (*Laglaize*).	Tweeddale Coll.
g'. Ad. sk.	Dakar, Jan. (*Laglaize*).	Tweeddale Coll.
h'. Ad. sk.	River Gambia.	Sharpe Coll.
i'. Imm. sk.	Gambia (*Moloney*).	Shelley Coll.
k'. Skull and imperfect skel.	Abyssinia.	W. T. Blanford, Esq. [P.].
l'. Skeleton.	Abyssinia.	Jesse Coll.
m'. Skull.		

12. **Lophoceros damarensis.** (Plate XIV.)

? Buceros erythrorhynchus, *Sundev.* (*nec Temm.*).
Tockus erythrorhynchus, *Gurney, ed. Anderss. B. Damara-Land*, p. 211 [part.] (1872).
Lophoceros damarensis, *Shelley*, *Ibis*, 1888, p. 66.

Adult male. Two birds from Damaraland have been described by Captain Shelley under the above name. They both differ from typical *L. erythrorhynchus* in having the whole of the feathered parts of the head and the neck pure white, except the crown, which is mixed with blackish-grey feathers. In one specimen the fifth to the seventh secondaries and the two outer pairs of tail-feathers are pure white, while the fourth and eighth secondaries and the third pair of rectrices are very nearly so. In the second specimen the fifth to the seventh secondaries and the outer tail-feathers have some black mixed with them. In all other respects they resemble *L. erythrorhynchus*. Total length 19 inches, wing 7·9, tail 8, tarsus 1·7.

Hab. Damaraland, S. Africa.

a. ♂ ad. sk.	Otjimbinque, Damaraland (*Andersson*).	Sharpe Coll. (Type of species.)
b. ♂ ad. sk.	Schmelens Hope, Damaraland, Jan. (*Andersson*).	Sharpe Coll.

13. Lophoceros flavirostris.

Buceros flavirostris, *Rüpp. Faun. Abyss., Vögel*, p. 6, pl. ii. fig. 2 (1835); *Gray, Gen. Birds*, ii. p. 400 (1847); *Speke, Ibis*, 1860, p. 244; *Finsch & Hartl. Vög. Ostafr.* p. 490 (1870); *Finsch, Tr. Z. S.* vii. p. 278 (1870); *Heugl. Orn. N.O.-Afr.* i. pp. 725 & clv (1871).

Tockus flavirostris, *Rüpp. Syst. Uebers. Vög. N.O.-Afr.* p. 79 (1845); *Bonap. Consp. Gen. Av.* i. p. 92 (1850); *id. Consp. Vol. Anisod.* p. 3 (1854); *Horsf. & Moore, Cat. B. Mus. E. Ind. Co.* ii. p. 596 (1856–58); *Blanf. Geol. & Zool. Abyss.* p. 327 (1870); *Sharpe, Cat. Afr. B.* p. 9 [part.] (1871); *Elliot, Mon. Bucerot.* pl. 51 [text, part.] (1877); *Salvad. Ann. Mus. Civ. Genov.* pp. 104, 262 (1884).

Rhynchaceros flavirostris, *Cab. J. f. O.* 1878, p. 235.

Alophius flavirostris, *Dubois, Bull. Mus. Bely.* iii. p. 218 [part.] (1884).

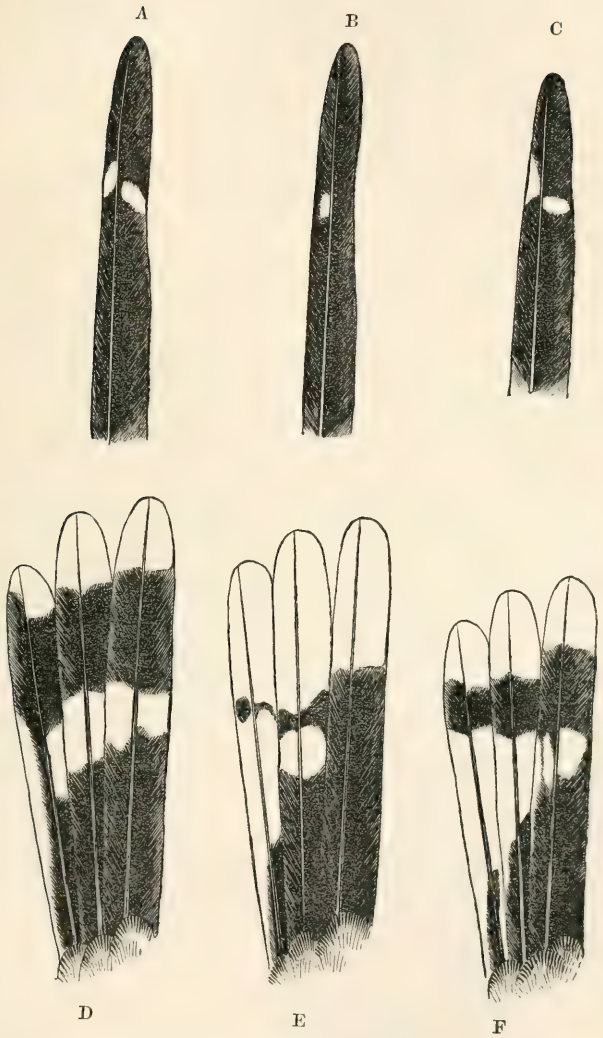
Lophoceros flavirostris, *Shelley, Ibis*, 1888, p. 67.

Adult male. Top of the head blackish brown; lores, broad stripe over the eye, and chest white with black shaft-stripes; ear-coverts grey, with black shaft-stripes and narrowly edged with the same colour; rest of plumage on face, throat, neck, and down the middle line of the upper half of the back, also breast, rest of underparts, bases of quills, and inner under wing-coverts white; rest of back, rump, and upper tail-coverts black; wing-coverts black with white subterminal spots; long scapulars brownish black; primaries and secondaries black, spotted with white on the middle of both webs (the first two primaries and the last primaries and secondaries excepted), the spots gradually increasing in size till on the fifth, sixth, and seventh secondaries they form large white lateral patches, these feathers are also widely tipped with white; the middle and second pairs of tail-feathers are black, the three outer pairs are black, widely tipped with white and with a bar an inch and a half wide across the middle: naked skin round the eye dusky, and on the unfeathered parts of the throat pink (yellow in skin); iris pale yellow; legs dusky; bill and slight casque orange-yellow, the end of the bill and cutting-edge of the mandibles dark reddish black. Total length 21 inches, wing 8·4, tail 9·2, tarsus 1·6.

Adult female. Does not differ in plumage from the adult male, but the bare skin of the throat is dusky like that round the eye. Total length 19 inches, wing 7·7, tail 8·6, tarsus 1·6.

Hab. E. Africa, between about 15° N. lat. and 5° S. lat.

a. Ad. sk.	Abyssinia.	Hume Coll.
b, c. ♂ ♀ ad. sk.	Undel Wells, April (*Jesse*).	Sharpe & Shelley Coll.
d. ♂ ad. sk.	Sooroo (*Jesse*).	Tweeddale Coll.



A, D. 5th primary and 3 outer tail-feathers of *Lophoceros flavirostris*.
B, E. " " " *L. leucomelas*.
C, F. " " " *L. elegans*.

e, f. ♂ ♀ ad. sk.	Near Senafé, Feb., May.	W. T. Blanford, Esq. [C.].
g. ♀ ad. sk.	Raregnddy (*Jesse*).	Salvin-Godman Coll.
h. ♀ ad. sk.	Efat, Shoa, April (*Harris*).	India Museum.
i. ♂ ad. st.	Efat, Shoa, April (*Harris*).	India Musedm.
k. ♂ ad. sk.	Udi, Taite, Feb.	Dr. Hildebrandt.
l, m. Skull and skeleton.		

14. Lophoceros leucomelas.

Buceros leucomelas, *Licht. Verz. Säugeth. u. Vög.* p. 17 (1842).

Rhynchaceros leucomelas, *Cab. & Heine, Mus. Hein.* ii. p. 166 (1860).

Lophoceros leucomelas, *Shelley, Ibis*, 1888, p. 67.

Buceros flavirostris, *Schl. (nec Rüpp.) Mus. Pays-Bas.* i. Buceros, p. 14 (1862); *Ayres, Ibis*, 1871, p. 260, 1879, p. 295.

Tockus flavirostris, *Sharpe, Cat. Afr. B.* p. 9 [part., S. Afr.] (1871); *Gurney, ed. Anderss. B. Damara-Land*, p. 210 (1872); *Buckley, Ibis*, 1874, p. 365; *Shelley, Ibis*, 1875, p. 82; *Sharpe, ed. Layard's B. S. Afr.* p. 130 (1875); *Elliot, Mon. Bucerot.* pl. 51 [text, part.] (1877); *Sharpe in Oates' Matabele-land*, App. p. 304 (1881); *Shelley, Ibis*, 1882, p. 245; *Holub u. Pelz. Orn. Südafr.* p. 140 (1882).

Alophius flavirostris, *Dubois, Bull. Mus. Bely.* iii. p. 218 [part.] (1884).

Adult male. Plumage very similar to that of *L. flavirostris*, but the top of the head is greyer, the white stripe down the middle of the back wider, and the feathers of the chest have *white* shafts and are edged on either side with black; the white spots on the wing-coverts are larger, and those on the primaries are confined to the outer web from the fourth to the seventh quills, while the remainder and the two first secondaries are uniform black; the fifth and sixth secondaries and their coverts are nearly pure white and the remainder are margined with white; the third pair of tail-feathers are black with the terminal third white, the fourth the same but with a "window" of white in the end of the black part; the fifth pair are white with black base and a black spot or band across the middle of the white: naked skin round the eye dark pink like that of the throat (yellow in skin). Total length 22 inches, wing 8·3, tail 9, tarsus 1·6.

Adult female. Resembles the adult male in all particulars, including the naked skin round the eye and on the throat, which is dark pink. Total length 17·5 inches, wing 7·9, tail 8·3, tarsus 1·6.

Immature bird has the bill much darker than the adult, but is otherwise quite similar.

Hab. S. Africa.

a. ♂ ad. sk.	Makalaka (*Bradshaw*).	Shelley Coll.
b. ♀ ad. sk.	Kanye, Matabeli (*Exton*).	Sharpe Coll.
c. ♀ ad. sk.	Motloutsee, Aug.	W. E. & C. G. Oates, Esqs. [P.].
d. ♂ ad. sk.	Transvaal (*Ayres*).	Sharpe Coll.
e–g. ♂ ♀ ad. sk.	Transvaal, July (*Buckley*).	Shelley Coll.

h. ♂ ad. sk.	Rustenburg, May (*T. Ayres*).	J. H. Gurney, Esq. [P.].
i, j, k. ♂ ♀ ad. sk.	Crocodile River, July (*Oates*).	Shelley Coll.
l. ♂ ad. sk.	Cape (*Butler*).	Shelley Coll.
m. Ad. st.	S. Africa.	Sir A. Smith [P.].
n. Ad. sk.	Damaraland (*Andersson*).	Shelley Coll.
o. Ad. sk.	Damaraland (*Andersson*).	Sharpe Coll.
p. Imm. sk.	Damaraland.	Sir J. Alexander [C.].
q. Ad. sk.	Otjimbinque, June (*Andersson*).	Sharpe Coll.
r, s. ♂ ad. et imm. sk.	Otjimbinque, June, Aug. (*Andersson*).	Tweeddale Coll.
t. ♂ ad. sk.	Schmelen's Hope, Jan. (*Andersson*).	Sharpe Coll.
u. Imm. sk.	Great Namaqualand, April (*Andersson*).	Sharpe Coll.

15. Lophoceros elegans.

Toccus elegans, *Hartlaub, P. Z. S.* 1865, p. 86, pl. iv.
Lophoceros elegans, *Shelley, Ibis*, 1888, p. 68.
Tockus flavirostris, *Sharpe, Cat. Afr. B.* p. 9 [part.] (1871); *Elliot, Monogr. Bucerot.* pl. 51 [text, part.] (1877); *Bocage, Orn. Angola*, p. 119 (1881).
Alophius flavirostris, *Dubois, Bull. Mus. Belg.* iii. p. 218 (1884).

Adult male. Very similar in plumage to *L. flavirostris* and *L. leucomelas*; the third to the seventh primaries are spotted on *both* webs with white, those on the inner not quite reaching the outer margin of the feathers, the last three primaries and the first three secondaries black, the fourth and fifth spotted on both webs with white, the sixth and seventh more white than black, and the remainder like the scapulars brownish edged with white; first and second pairs of tail-feathers black, remainder widely tipped with white as in *L. flavirostris*, and with a band of white across the middle of the black, narrowest on the third and widest on the fifth pair, in which the white extends almost to the base of the feathers; the feathers of the chest are edged with black as in *L. leucomelas*, and without the black shaft-stripes characteristic of *L. flavirostris*. The colours of the soft parts are the same as in *L. leucomelas*. Total length 17·4 inches, wing 7·2, tail 7·7, tarsus 1·6.

Adult female. Resembles the adult male; but the dark parts of the bill are more red and less black. Total length 16 inches, wing 6·7, tail 7·1, tarsus 1·5.

Hab. S.W. Africa.

a. Ad. sk.	Benguela.	J. Monteiro [C.]. (Type of species.)
b–d. ♂ ♀ ad. sk.	Galungo, Loanda, Aug., Oct. (*Sala*).	Shelley Coll.
e–g. ♂ ♀ ad. sk.	Galungo, Loanda, Aug., Sept., Oct. (*Sala*).	Sharpe Coll.

16. Lophoceros deckeni.

Buceros (Rhynchaceros) deckeni. *Cab. V. d. Decken's Reisen*, iii. p. 36, pl. 6 (1869).
Buceros deckeni, *Finsch & Hartl. Vög. Ostafr.* p. 489 (1870); *Böhm, J. f. O.* 1883, p. 170.
Rhynchaceros deckeni, *Cab. J. f. O.* 1870, p. 235, pl. 2; *Fisch. Zeit. ges. Orn.* p. 362 (1884); *id. J. f. O.* 1885, p. 126; *Reichen. J. f. O.* 1887, p. 60.
Tockus deckeni, *Elliot, Mon. Bucerot.* pl. 57 [text] (1881).
Alophius deckeni, *Dubois, Bull. Mus. Belg.* iii. p. 217 (1884).
Lophoceros deckeni, *Shelley, Ibis*, 1888, p. 68.
Tockus bocagei, *Oust. Bull. Soc. Phil.* 1881, p. 161; *Rochebrune, Faun. Sénégamb., Ois.* p. 121, pl. xiii.

Adult male. Lores and top of the head blackish grey; ear-coverts white, edged with grey and with dark shafts; a broad superciliary stripe, rest of the head, feathered parts of throat, neck, breast, underparts, middle line of upper half of back, under wing-coverts, and base of quills white; rest of back, rump, and upper tail-coverts black; wing-coverts black, except the middle secondary coverts, which are almost entirely white; primaries black, the four centre ones with a white spot on the middle of the outer web; first four secondaries black, the fifth and last three white-margined, and the sixth and seventh nearly white; middle and second pairs of tail-feathers black, rest with black bases and white ends, the last third of the third pair and two-thirds of the fifth pair being white; there is often a *fenestra* of white present in the terminal part of the black; in skin, naked skin round the eye is dusky, on the sides of the throat yellow; legs and feet black; basal half of bill orange-red, remainder yellowish white, the end of the mandible and the cutting-edge black. Total length 20 inches, wing 7·4, tail 8·8, tarsus 1·7.

Hab. E. and E.-Central Africa.

a. Ad. sk.	Lamu.	F. J. Jackson, Esq. [P.].
b. ♂ ad. sk.	Taita, July (*Hildebrandt*).	Shelley Coll.
c. ♂ ad. sk.	Taita, July.	Dr. Hildebrandt [C.].

17. Lophoceros jacksoni. (Plate XIII.)

Lophoceros jacksoni, *Grant, Ibis*, 1891, p. 127.

Adult male. Differs from *L. deckeni* in having the wing-coverts ornamented with subterminal oval white spots. Total length 19·5 inches, wing 7·5, tail 8·6, tarsus 1·5.

Hab. Torquel, Sük (*Jackson*).

16. BYCANISTES.

	Type.
Bycanistes, *Cab. & Heine, Mus. Hein.* ii. p. 171 (1860).	B. buccinator.
Pholidophalus, *Elliot, Mon. Bucerot.* pl. 32 [text] (1878)	B. fistulator.

Bill rather short, deep, and compressed, either with a large elevated, subcylindrical, compressed casque, longitudinally or transversely furrowed, covering the basal three-quarters of the culmen or more, and extending over the skull behind the eye, or with the casque quite rudimentary, scarcely rising above the level of the culmen. Plumage black and white. Tail subquadrate. Crest large, composed of long soft feathers.

Range. Africa.

Key to the Species.

I. Breast and belly white.
  a. Well-developed casque.
    a'. Outer tail-feathers black tipped with white. *buccinator*, p. 421.
    b'. Outer tail-feathers white ..... *leucopygius*, p. 418.
  b. Very slight casque.
    c'. Outer tail-feathers black tipped with white. *fistulator*, p. 422.
    d'. Outer tail-feathers pure white (or nearly so) ..... *sharpii*, p. 422.

II. Breast black, belly white.
  c. Feathers on sides of head and chest with grey ends.
    e'. Ends of secondaries black (sometimes slightly margined with white) ..... *cristatus*, p. 417.
    f'. Outer half of secondaries white. [p. 419.
      a''. Greater secondary coverts black ..... *subcylindricus*,
      b''. Greater secondary coverts with white ends ..... *subquadratus*, p. 419.
  d. Feathers on sides of head and crest black.
    g'. Thighs black in front ..... *cylindricus*, p. 420.
    h'. Thighs pure white..... *albotibialis*, p. 420.

1. Bycanistes cristatus.

Buceros cristatus, *Rüpp. Faun. Abyss., Vögel*, p. 3, pl. i. (1835); *id. Syst. Uebers. Vög. N.O.-Afr.* p. 79 (1845); *Gray, Gen. Birds*, ii. p. 399 (1847); *Cass. P. Ac. Philad.* p. 139 (1859); *Schl. Mus. Pays-Bas*, i. Buceros, p. 16 (1862); *Heugl. J. f. O.* 1864, p. 270; *Sclat. P. Z. S.* 1864, p. 111; *Kirk, Ibis*, 1864, p. 326; *Finsch & Hartl. Vög. Ostafr.* p. 482 (1870); *Heugl. Orn. N.O.-Afr.* i. pp. 731 & clvi (1871); *Elliot, Ibis*, 1873, p. 178; *Sharpe, ed. Layard's B. S. Afr.* p. 126 (1875); *Fisch. & Reich. J. f. O.* 1880, p. 141; *Fisch. Zeit. ges. Orn.* 1884, p. 361; *id. J. f. O.* 1885, p. 126; *Shelley, P. Z. S.* 1885, p. 224; *Reichen. J. f. O.* 1887, p. 60; *Shelley, Ibis*, 1888, p. 52.

Bucorvus cristatus, *Bonap. Consp. Gen. Av.* i. p. 89 (1850).

Tmetoceros cristatus, *Bonap. Consp. Vol. Anisod.* p. 2 (1854).

Bycanistes cristatus, *Cab. & Heine, Mus. Hein.* ii. p. 172, note (1860); *Cab. V. d. Decken's Reis.* iii. p. 38 (1869); *Elliot, Mon. Bucerot.* pl. 26 [text] (1877); *Shelley, P. Z. S.* 1881, p. 591; *Salvad. Ann. Mus. Civ. Genov.* xxi. p. 102 (1884).

Buceros (Bycanistes) cristatus, *Gray, Hand-l. B.* ii. p. 331, sp. 7912 (1870); *Dubois, Bull. Mus. Belg.* iii. p. 200 (1884).

Adult male. Ear-coverts greyish white; rest of head black, glossed

with dark green at the end of each feather, and, except the longer crest-feathers, tipped with greyish white; throat, neck, upper back, wings, chest, breast, upper part of belly, and front of thighs black glossed with dark green, especially the upper parts; lower back, rump, inner side of shoulders, under wing-coverts, bases of primaries, lower part of belly, back of thighs, and tail-coverts white; basal portion of all the tail-feathers and terminal quarter of all except the central pair white, rest black glossed with dark green like the back: naked skin round eye blue; iris crimson; legs and feet black; casque very large, striated and corrugated, and of a yellowish-white colour; bill brownish yellow, lighter towards the tip, an orange-yellow band across the base from the nostril to the angle of the lower mandible. Total length 29 inches, wing 15, tail 11, tarsus 2·4.

Adult female. Differs from the adult male only in the shape and coloration of the casque, which is much less developed and of a dark colour similar to the bill: naked skin round the eye blue. Total length 27 inches, wing 13·4, tail 10·2, tarsus 1·8.

Immature male with casque half-developed has the superciliary feathers and those of the front of the head mixed with rufous-buff.

Hab. East Africa, from Abyssinia to the Zambesi.

a–c. ♂ ad. et imm. sk.	Pangani River (*Kirk*).	Shelley Coll.
d. ♂ ad. sk.	Shiré River, Zambesi.	Sir John Kirk [P.].
e. ♂ ad. sk.	Shiré River, Zambesi (*Livingstone*).	Earl Russell [P.].
f, g. ♂ ♀ ad. sk.	Kilimanjaro (*H. H. Johnston*).	British Assoc. [P.].
h. ♂ ad. (head only).		
i, k. ♂ ♀ ad. st.	Abyssinia.	

2. Bycanistes leucopygius.

Buceros (Bycanistes) leucopygius, *Dubois, Bull. Mus. Belg.* iii. p. 202 (1884).

Adult. General plumage greenish black; greater wing-coverts tipped with white; first primary black, second with the tip and greater part of the inner web white, third entirely white with a black mark on the middle; fourth, fifth, and sixth white, with the outer web black except the tip; secondaries white; breast, rump, and tail-coverts white; tail white, with the centre pair of feathers black with green reflexions: iris dark brown; feet black; bill and casque yellowish, the latter rounded but compressed in front and merging into the line of the culmen (*Dubois*). Wing 10·8 inches.

Young. Bill and casque like that of the adult; the black parts still intermixed with brown feathers; the colours of the primaries differ from those of the adult, all are black irregularly tipped with white, and the greater wing-coverts are not tipped with white (*Dubois*).

Hab. Nyam-nyam.

3. Bycanistes subcylindricus.

Buceros subcylindricus, *Sclater*, *P. Z. S.* 1870, p. 638, pl. xxxix., 1871, p. 489, fig. 1; *Elliot*, *Ibis*, 1873, p. 179; *Marie*, *P. Z. S.* 1874, p. 420, woodcuts; *Sclater*, *P. Z. S.* 1879, p. 550, 1882, p. 343; *Shelley*, *Ibis*, 1888, p. 54 [part.].
Bycanistes subcylindricus, *Elliot*, *Mon. Bucerot.* pl. 29 [text] (1877).
Buceros (Bycanistes) subcylindricus, *Dubois*, *Bull. Mus. Belg.* iii. p. 201 [part.] (1884).

Adult female. Ear-coverts and most of the cheek-feathers greyish white; rest of head and neck black glossed with green, the ends of the feathers greyish white; back, wing-coverts, chest, and breast black glossed with green; inner side of shoulders, rump, belly, and tail-coverts white; the bases of the primaries and secondaries, and the terminal half of the last four primaries, the secondaries, and long scapulars white; the rest of the first six or seven primaries and the middle parts of the other quills black; basal part of tail-feathers and terminal half of all but the centre pair white, remainder of feathers black glossed with dark green: naked skin round the eye and on the throat red (in skin); iris reddish brown; legs black; bill and casque black, the latter extending nearly to the point of the bill. Total length about 24 inches, wing 11·3, tail about 9, tarsus 1·7.

An immature female has the feathers on the lores edged with rufous-buff, the tip of the middle tail-feathers white, and the naked skin round the eye is dark blue.

Hab. W. Africa.

a, *b*. ♀ ad. et imm. sk.	W. Africa.	Zool. Soc. Coll. (Types of species.)

4. Bycanistes subquadratus.

Bycanistes subquadratus, *Cab. J. f. O.* 1880, p. 350, pl. i.; *Bocage*, *Orn. Angola*, p. 540 (1881); *Elliot*, *Mon. Bucerot.* pl. 28 [text] (1882).
Buceros subquadratus, *Hartl. Abh. nat. Ver. Bremen*, viii. p. 208 (1882).
Buceros (Bycanistes) subcylindricus, *Dubois*, *Bull. Mus. Belg.* iii. p. 201 [part.] (1884).
Buceros subcylindricus, *Shelley*, *Ibis*, 1888, p. 54 [part.].

Adult male. Resembles *B. subcylindricus* in general appearance, but differs in having the black on the basal part of the inner primaries and secondaries reduced to a wide bar, while the greater coverts of these feathers have wide white ends instead of being uniform black; the casque is large and resembles that of *B. cristatus* in shape, rising high above the culmen anteriorly and terminating abruptly quite two inches from the point of the bill; bill and casque black, the latter with a large yellowish-white patch posteriorly, and in some specimens a yellowish line from the nostril

to the base of the lower mandible: iris crimson; legs black. Total length 28 inches, wing 14, tail 10·5, tarsus 2·1.

Hab. Talla Mogongo, Angola; Nyam-nyam Country, Upper White Nile District, Elgon, 6000–8000 ft. (*Jackson*).

5. Bycanistes albotibialis.

Buceros albotibialis, *Cab. & Reich. J. f. O.* 1877, pp. 19 & 103, 1878, pl. i.; *Bocage, Orn. Angola*, p. 540 (1881); *Shelley, Ibis*, 1888, p. 56; *Reich. J. f. O.* 1890, p. 114.

Bycanistes albotibialis, *Elliot, Mon. Bucerot.* pl 31 [text] (1880); *Hartert, Cat. Mus. Senckenb. Frankf.* p. 141 (1891).

Buceros (Bycanistes) albotibialis, *Dubois, Bull. Mus. Belg.* iii. p. 202 (1884).

Adult. Head, neck, back, wing-coverts, and breast black glossed with dark green; inner side of shoulders, rump, belly, thighs, and tail-coverts white; base of primaries and secondaries and the terminal part of the quills except the first two primaries white; tail white with a wide subbasal black band glossed with dark green; naked skin round the eye and on throat reddish yellow (in skin); legs and feet black; base of casque and basal three-quarters of bill blackish, rest white; the anterior portion of the casque extends forward to within an inch of the end of the culmen. Total length 28 inches, wing 13, tail 8·8, tarsus 1·8.

Hab. W. Africa.

a. Ad. st. Gaboon. Purchased.

6. Bycanistes cylindricus.

Buceros cylindricus, *Temm. Pl. Col.* ii. p. 76, pl. 521. fig. 2 (1824); *Gray, Gen. Birds*, ii. p. 399 (1847); *Hartl. J. f. O.* 1854, p. 127; *Hartl. Orn. W.-Afr.* p. 162 (1857); *Cass. P. Ac. Philad.* 1859, p. 139; *Schl. Mus. Pays-Bas*, i. Buceros, p. 17 (1862); *Sharpe, Ibis*, 1872, p. 67; *Elliot, Ibis*, 1873, p. 178; *Ussher, Ibis*, 1874, p. 51; *Büttikofer, Notes Leyd. Mus.* iv. p. 206 (1885); *Shelley, Ibis*, 1888, p. 55.

Bucorvus cylindricus, *Bonap. Consp. Gen. Av.* i. p. 89 (1850).

Tmetoceros cylindricus, *Bonap. Consp. Vol. Anisod.* p. 2 (1854).

Bycanistes cylindricus, *Cab. & Heine, Mus. Hein.* ii. p. 173 (1860); *Elliot, Mon. Bucerot.* pl. 30 [text] (1881); *Sclat. P. Z. S.* 1885, p. 851.

Buceros (Bycanistes) cylindricus, *Dubois, Bull. Mus. Belg.* iii. p. 201 (1884).

Buceros (Byanistes?) casuarinus, *Gray, Ann. & Mag. N. H.* viii. p. 437, pl. xvii. (1871); *Bocage, P. Z. S.* 1873, p. 703.

Buceros (Pholidophalus) casuarinus, *Dubois, Bull. Mus. Belg.* iii. p. 205 (1884).

Pholidophalus casuarius, *Elliot, Mon. Bucerot.* pl. 34 [text] (1882).

The plumage is similar to that of *B. albotibialis*, except that the black of the breast is continued down the front of the thighs nearly

to the tarsal joint, the greater primary-coverts have white ends, and the back is glossed with purple as well as green; the casque is abruptly truncated in front, not produced forward into a point as in *B. albotibialis*; naked skin round the eye and throat red; iris crimson; legs and feet dusky; bill and casque yellowish white. Total length 28 inches, wing 13, tail 8·8, tarsus 1·8.

Hab. N. Africa, Gaboon to Liberia.

a. Ad. sk.	Fantee (*Ussher*).	Sharpe Coll.
b. Ad. st.	W. Africa.	
c. Head only.	No loc.	(Type of *Buceros casuarinus*.)

7. Bycanistes buccinator.

Buceros bucinator, *Temm. Pl. Col.* ii. p. 93, pl. 284 (1824).

Buceros buccinator, *Wagl. Syst. Av.* Buceros, no. 12 (1827); *Less. Traité Orn.* p. 253 (1831); *Gray, Gen. Birds*, ii. p. 399 (1847); *Gurney, Ibis*, 1861, p. 133; *Schl. Mus. Pays-Bas*, i. Buceros, p. 17 (1862); *Kirk, Ibis*, 1864, p. 326; *Layard, B. S. Afr.* p. 226 (1867); *Finsch & Hartl. Vög. Ostafr.* p. 484 (1870); *Elliot, Ibis*, 1873, p. 179; *Sharpe, ed. Layard's B. S. Afr.* p. 125 (1875); *Bocage, Orn. Angola*, p. 540 (1881); *Finsch, J. f. O.* 1885, p. 126; *Ayres, Ibis*, 1887, p. 51; *Shelley, Ibis*, 1888, p. 53.

Bucorvus buccinator, *Bonap. Consp. Gen. Av.* i. p. 89 (1850).

Tmetoceros buccinator, *Bonap. Consp. Vol. Anisod.* p. 2 (1854).

Bycanistes buccinator, *Cab. & Heine, Mus. Hein.* ii. p. 171 (1860); *Cab. V. d. Decken's Reis.* iii. p. 38 (1869); *Elliot, Mon. Bucerot.* pl. 27 [text] (1880); *Shelley, P. Z. S.* 1881, p. 591.

Buceros (Bycanistes) buccinator, *Dubois, Bull. Mus. Belg.* iii. p. 200 (1884).

Adult male. Ear-coverts grey; some of the feathers on the sides of the head and crest with grey centre streaks; rest of head, the neck, chest, back, wings, and tail black glossed with green; the bases of all the quills, the ends of the last two primaries, of all the secondaries, and of the tail-feathers, except the middle pair, white; the long scapulars are sometimes tipped with white; inner side of shoulders, rump, breast, belly, thighs, and tail-coverts white: naked skin round eye and on the unfeathered parts of the throat purple (reddish in skin); iris red; legs and feet blackish; bill and casque blackish, the anterior extremity of the latter produced in a point extending nearly as far as the end of the bill. Total length 25 inches, wing 11·5, tail 8·3, tarsus 1·6.

Adult female. Plumage similar to the above; but the bill and casque are much smaller, and the anterior part of the casque is abruptly truncated above the middle of the bill. Total length 21·3 inches, wing 10·2, tail 8·2, tarsus 1·6.

In younger examples the lores and front of the head are mixed with chestnut, otherwise the plumage is the same.

Hab. East Africa south of the Equator to Natal, Kingwilliamstown, the Knysna in Cape Colony, and northwards to Angola.

a. ♂ ♀ ad. sk.	South Africa (*Hope*).	Purchased.
b. Imm. sk.	Cape.	Purchased.
c, *d*. Ad. et imm. sk.	Kingwilliamstown.	Lt. Trevelyan [P.].
e, *f*. ♂ ♀ imm. sk.	Durban, Aug. (*Gordge*).	Shelley Coll.
g. ♂ ad. sk.	Oliphants R., Transvaal, July (*T. Ayres*).	J. H. Gurney, Esq. [P.].
h. ♂ ad. sk.	Zambesi.	Sir John Kirk [P.].
i. ♂ ad. sk.	Zambesi (*Mellar*).	Shelley Coll.
k. ♀ ad. sk.	Shuparga (*Kirk*).	Earl Russell [P.].
l. ♀ ad. sk.	Pangani R. (*Kirk*).	Shelley Coll.
m, *n*. ♀ ad. sk.	Melinda (*Kirk*).	Shelley Coll.
o. Skull.		

8. Bycanistes fistulator.

Buceros fistulator, *Cassin, P. Ac. Nat. Sci. Philad.* v. p. 68 (1852); *Hartl. Orn. W.-Afr.* p. 102 [part.] (1857); *id. J. f. O.* 1861, p. 261 [part.]; *Schl. Mus. Pays-Bas*, i. Buceros, p. 16 (1862); *Sharpe, Cat. Afr. B.* p. 8 [part.] (1871); *Ussher, Ibis*, 1874, p. 51; *Reich. J. f. O.* 1877, p. 19 [part.]; *Büttikofer, Notes Leyd. Mus.* iv. p. 206 (1885); *Hartert, J. f. O.* 1886, p. 596; *Shelley, Ibis*, 1888, p. 53.

Tmetoceros fistulator, *Bonap. Consp. Vol. Anisod.* p. 2 (1854).

Buceros (Bycanistes) fistulator, *Gray, Hand-l. B.* ii. p. 131, sp. 7913 (1870).

Pholidophalus fistulator, *Elliot, Mon. Bucerot.* pl. 32 [text] (1878).

Buceros (Pholidophalus) fistulator, *Dubois, Bull. Mus. Belg.* iii. p. 203 [part.] (1884).

Buceros leucostigma, *Temm. Mus. Lugd., in Schl. Mus. Pays-Bas*, i. Buceros, p. 16 (1862).

Adult. Ear-coverts grey; centre of most of the feathers of the crest silvery; rest of head, neck, back, rump, upper-breast, and wing-coverts black glossed with green; inner side of shoulders, bases of quills, ends of three inner primaries and the secondaries, lower breast, belly, thighs, and tail-coverts white; base of tail-feathers and the terminal quarter of all except the middle pair white, remainder of feathers black glossed with green: naked skin round the eye purplish red; iris dark brown; legs and feet blackish brown, soles golden; bill golden white, black in the middle of both upper and under mandible. Total length 20·5 inches, wing 9·4, tail 7·3, tarsus 1·6.

Hab. W. Africa, from the Niger to Senegambia.

a. Imm. sk.	Fantee (*Ussher*).	Sharpe Coll.
b–*e*. Ad. et imm. sk.	Fantee, Nov. (*Aubinn*).	Sharpe Coll.
f. Ad. (head only).	Fantee (*Aubinn*).	Sharpe Coll.
g. Ad. sk.	No loc.	Shelley Coll.

9. Bycanistes sharpii.

Buceros fistulator, *Cassin, P. Acad. Nat. Sci. Philad.* 1859, p. 129; *Sharpe, P. Z. S.* 1871, p. 134; *id. Cat. Afr. Birds*, p. 8 (1871); *Reich. J. f. O.* 1877, p. 19 [part.].

Buceros sharpii, *Elliot, Ibis*, 1873, pp. 177, 179; *Oustalet, N. Arch. Mus.* (2) ii. p. 69 (1879); *Bocage, Orn. Angola*, p. 114 (1881); *Shelley, Ibis*, 1888, p. 54.

Pholidophalus sharpii, *Elliot, Mon. Bucerot.* pl. 33 [text] (1881).
Buceros vivi, *Dubois, Bull. Mus. Belg.* iii. p. 204, pl. xi. (1884).
Buceros fistulator, var., *Dubois, Bull. Mus. Belg.* iii. pl. xi. (1884).

Adult. Resembles *B. fistulator*, but is easily distinguished by the following characters:—Larger size; the uniform black head glossed with dark green; the greater amount of white in the wing, the whole of the middle quills being pure white; the tail-feathers except the black central pair are nearly pure white, the second pair sometimes with some black near the base. Total length 24 inches, wing 10·6, tail 8·2, tarsus 1·6.

In younger examples there is less white and more black in the quills as well as the tail-feathers, but never to the same extent observed in the most adult specimens of *B. fistulator*.

Hab. W. Africa, Angola to the Niger.

a. Ad. sk.	Angola (*Hamilton*).	Sharpe Coll. (Type of the species.)
b. Imm. sk.	Congo.	Lords of the Admiralty [P.].
c. Ad. st.	Gaboon.	Purchased.
d. Ad. sk.	Ogowé R., Gaboon.	H. Ansell, Esq. [P.].
e. Ad. sk.	Niger.	Dr. Baikie [C.].

17. BERENICORNIS.

	Type.
Berenicornis, *Bonap. Consp. Gen. Av.* i. p. 9 (1850)	B. comatus.

Bill large, curved, compressed. Casque moderate, keel-shaped, covering the basal half of the culmen. Sides of the throat naked. Crest very large and hairy, the feathers on the lores very long and directed upwards and forwards. Tail long, white, wedge-shaped, middle pair of feathers considerably the longest.

Range. S. Tenasserim, the Malay Peninsula, Sumatra, and Borneo.

1. Berenicornis comatus.

Buceros comatus, *Raffl. Trans. Linn. Soc.* xiii. p. 399 (1822); *Temm. Pl. Col.* ii. p. 83 (1832); *Müll. & Schl. Verh. Ges. Ned. Ind.* pp. 23, 29 (1839–44); *Hay, Madr. J.* xiii. p. 149 (1844); *Gray, Gen. Birds*, ii. p. 399 (1847); *Blyth, J. As. Soc. Beng.* xvi. p. 996, pl. xliv. fig. 2 (1847); *Schl. Mus. Pays-Bas*, i. Buceros, p. 8 (1862).

Buceros lugubris, *Begbie, Malay Peninsula*, p. 513 [imm.] (1834); *id. Ann. Mag. N. H.* xvii. p. 405 (1846).

Berenicornis comatus, *Bonap. Consp. Gen. Av.* i. p. 91 (1850); *id. Consp. Vol. Anisod.* p. 2 (1854); *Horsf. & Moore, Cat. B. Mus. E. Ind. Co.* ii. p. 594 (1856–8); *Moore, P. Z. S.* 1859, p. 450; *Hume, Str. F.* iii. p. 318 (1875), v. p. 20, note (1877); *Kelham, Ibis*, 1881, p. 385; *Hume & Dav. Str. F.* vi. p. 106 (1878); *Hume, Str. F.* ix. p. 86 (1880).

Anorrhinus comatus, *Elliot, Mon. Bucerot.* pl. 39 [text] (1877); *Oates, B. Brit. Burmah*, ii. p. 94 (1883); *Hartert, J. f. O.* 1889, p. 369; *Sharpe, Ibis*, 1890, p. 16.

Buceros (Anorrhinus) comatus, *Dubois, Bull. Mus. Belg.* iii. p. 207 (1884).

Adult male. Head, neck, breast, upper part of belly, tips of primaries and secondaries, patch on inner side of shoulder, and tail white; rest of plumage black, the scapulars and wings glossed with dull green: naked skin round eye and at base of lower mandible pale blue; iris wax-yellow: legs and feet black; bill black, a slight mottling of pale dull green at the base of both mandibles (*W. Davison*). Total length 41 inches, wing 15·8, tail 18, tarsus 2·4.

Young male in first plumage differs from the adult in having the head, neck, breast, and upper part of belly black tipped with white; the tail black, glossed with dull green and tipped with white, widest on the outer feathers. After the first moult the plumage resembles the adults, but many feathers of the head and crest have black shafts and the tail remains as above, but with an increased amount of white at the extremity of the feathers. The fully adult plumage appears to be attained after the second moult. "Naked skin round eye pink or pink tinged with blue; iris oil-yellow: bill, where not dull black, a very pale dull green" (*W. Davison*).

Adult female. Upper parts of head, chin, tips of primaries and secondaries, and tail white; rest of plumage black, the back and wings slightly glossed with dull green: naked skin round eye and at angle of lower mandible dull blue; iris wax-yellow; legs and feet black; bill black, yellowish green at base. Total length 36 inches, wing 14·6, tail 15·2, tarsus 2·3.

Immature female. "Bare skin on face dull fleshy purple; irides pale bluish grey; legs and feet black" (*Kelham*).

Hab. S. Tenasserim, Malayan Peninsula, Sumatra, and Borneo.

a–e. ♂ ♀ ad.; *f–h.* ♂ imm. sk.	Bankasoon, Mar., June, Dec. (*W. Davison*).	Hume Coll.
i. ♀ ad. sk.	Malawoon, Feb.	E. W. Oates, Esq. [C.].
k. ♀ ad. sk.	Malacca (*Dr. Cantor*).	India Museum.
l, m. ♂ ♀ ad. sk.	Malacca.	Capt. Stackhouse Pinwill [P.].
n. ♂ ad. sk.	W. coast Sumatra.	Van Faber [C.].
o, p. ♂ ♀ ad. st.	Sumatra.	
q. ♂ imm. sk.	Benkoka, N. Borneo, Aug.	J. Whitehead, Esq. [P.].
r. ♂ imm. sk.	Baram, Sarawak.	C. Hose, Esq. [C.].

18. ORTHOLOPHUS.

Bill fairly large and curved. Casque moderately elevated, keel-shaped, and covering the greater part of the culmen. A tract of feathers down the middle of the naked throat. Tail very long, wedge-shaped, black tipped with white, middle pair of tail-feathers very much the longest. Crest of long soft feathers, those on the lores and front of the head growing straight up.

Range. W. Africa.

Key to the Species.

a. Cheeks and throat-feathers black; greater wing-coverts and quills tipped with white ..... *albocristatus*, p. 425.
b. Cheeks and throat-feathers white with black shafts; greater wing-coverts and quills not tipped with white..... *leucolophus*, p. 426.

1. Ortholophus albocristatus.

Buceros albocristatus, *Cassin, Journ. Acad. Sci. Philad.* i. p. 135, pl. xv. (1848); *Schl. Mus. Pays-Bas*, i. Buceros, p. 9 (1862); *Reich. J. f. O.* 1875, p. 12; *id. J. f. O.* 1877, p. 18; *Sharpe & Bouvier, Bull. Soc. Z. France*, p. 310 (1876); *Bocage, Orn. Angola*, p. 540 (1881).

Berenicornis albocristatus, *Hartl. Orn. W.-Afr.* pp. 163, 274 [part.] (1857); *Cassin, P. Acad. Nat. Sci. Philad.* 1859, p. 139 [part.]; *Sharpe, Cat. Afr. B.* p. 8 (1871); *id. P. Z. S.* 1871, p. 604, fig. 1; *Bouvier, Cat. Ois. Marche, etc.* p. 27 (1875); *Shelley, Ibis*, 1888, p. 69.

Anorrhinus albocristatus, *Elliot, Mon. Bucerot.* pl. 40 [text] (1877).

Buceros (Anorrhinus) albocristatus, *Dubois, Bull. Mus. Belg.* iii. p. 207 (1884).

Berenicornis macrourus, *Bonap. Consp. Gen. Av.* i. p. 91 (1850); *id. Consp. Vol. Anisod.* p. 2 (1854).

Adult. Top of the head and crest covered with long white feathers, each with a black shaft-streak terminating in a black spot at the end of the feather; remainder of plumage black, glossed with dark green on the upper parts and breast; a patch of white at the base of the mandible and on the inner side and front of the shoulder; greater wing-coverts, quills, and tail-feathers tipped with white, and a white spot on the outer web of the six middle primaries; tail graduated, middle pair of feathers very long, twice and a half as long as the fifth pair: naked skin round the eye blue, on the unfeathered parts of the throat red; legs and feet, bill and casque black, a reddish-yellow mark extending forward from the nostril to the cutting-edge of the upper mandible. Total length 31·5 inches, wing 9·7, tail 18·5, tarsus 1·5.

Immature specimens resemble the above, but the bill is uniform black.

Hab. W. Africa to the north of the Congo.

a. Imm. sk.	North bank of Congo River.	Spencer Shield, Esq. [P.]
b–d. Ad. et imm. sk.	Cameroons (*Crossley*).	Sharpe Coll.
e. Ad. sk.	Gaboon.	H. T. Ansell, Esq. [P.].
f. Ad. sk.	Gaboon (*Ansell*).	Shelley Coll.

2. Orthologhus leucolophus.

Berenicornis albocristatus, *Hartl.* (*nec Cass.*) *Orn. W.-Afr.* p. 163 [part.] (1857); *Schl. Handl. d. Dierk.* i. p. 314, pl. iii. fig. 39 (1857); *Sharpe, Ibis*, 1869, p. 385; *id. P. Z. S.* 1871, p. 604, fig. 2; *Shelley & Buckley, Ibis*, 1872, p. 286.
Buceros albocristatus, *Büttikofer, Notes Leyd. Mus.* iv. p. 207 (1885).
Berenicornis leucolophus, *Sharpe, Zool. Rec.* 1871, p. 54 (1873); *Shelley, Ibis*, 1888, p. 70.
Anorrhinus leucolophus, *Elliot, Mon. Bucerot.* pl 41 [text] (1877).
Buceros (Anorrhinus) albocristatus, var. leucolophus, *Dubois, Bull. Mus. Belg.* iii. p. 208 (1884).

Adult. Closely resembles *B. albocristatus*, but differs in having the cheeks, sides of the face, and greater part of the feathers on the throat and neck white with black shafts; the greater wing-coverts and quills are not tipped with white or show only the slightest traces of white at the extremities; the basal half of the upper mandible is covered by a large black and yellowish-white scale. Total length 31·5 inches, wing 9·5, tail 17·4, tarsus 1·5.

Immature specimens have the feathers on the throat black as in *B. albocristatus* and there is not even a trace of white on the greater wing-coverts and quills; otherwise the plumage is the same as in the adult.

Hab. W. Africa, confined to the Gold Coast.

a. ♂ imm. sk.	Liberia, Feb. (*Büttikofer*).	Dr. Jentink [P.].
b. Ad. st.	Ashantee.	
c–e. ♀ ad. et imm. sk.	Fantee (*Ussher*).	Sharpe Coll.
f. Imm. sk.	Fantee.	Shelley Coll.
g. ♀ ad. sk.	Fantee.	A. Swanzy, Esq. [P].
h. ♂ ad. sk.	Denkera.	R. B. Sharpe, Esq. [P.].
i. Imm. sk.	Interior of Fantee.	J. Hickman, Esq. [P.].
k. ♂ ad. sk.	Gold Coast(*Kirby*).	Shelley Coll.

19. RHINOPLAX.

	Type.
Rhinoplax, *Gloger, Hand. u. Hilfsb.* p. 335 (1842).....	R. galeatus.
Cranoceros, *Reich. Syst. Av.* pl. i. (1849).....	R. vigil.
Buceroturus, *Bonap. Consp. Gen. Av.* i. p. 89 (1850) ..	R. galeatus.

Bill moderate, very slightly curved, sloping to a sharp point. Anterior wall of casque solid, cylindrical, extending backwards to the vertical from the middle of the eye and ending abruptly in front at right angles to the middle of the culmen. The whole of the throat and a band down the centre of the back naked. Centre pair of tail-feathers very long.

Range. S. Tenasserim, Malay Peninsula, Sumatra, and Borneo.

1. Rhinoplax vigil.

Le Calao à casque rond, *Daubent.* (*ex Edwards, Gleanings*, p. 150, pl. 281. fig. C) *Pl. Enl.* no. 933; *Buff. Hist. Nat. Ois.* vii. p. 159 (1780).

Helmet Hornbill, *Lath. Gen. Syn.* i. p. 343 (1781).

Buceros vigil, *Forst. Ind. Zool.* p. 40 (1781).

Rhinoplax vigil, *Elliot, Mon. Bucerot.* pl. 10 [text] (1877); *Hume & Dav. S. F.* vi. p. 115 (1878); *Hume, S. F.* viii. p. 86 (1879); *Sharpe, Ibis*, 1879, p. 248; *Oates, B. Brit. Burmah*, ii. p. 89 (1883); *Hartert, J. f. O.* 1889, p. 366; *Sharpe, Ibis*, 1890, p. 15.

Buceros scutata, *Bodd. Tabl. Pl. Enl.* p. 55 (1783); *Gray, Gen. Birds*, ii. p. 399 (1847).

Buceros scutatus, *Schl. Mus. Pays-Bas*, i. Buceros, p. 1 (1862).

Rhinoplax scutatus, *Horsf. & Moore, Cat. B. Mus. E. Ind. Co.* ii. p. 581 (1856–8); *Salvad. Ucc. Borneo*, p. 88 (1874); *Hume, Str. F.* iii. p. 318 (1875).

Buceros galeatus, *Gm. S. N.* i. p. 360 (1788); *Lath. Ind. Orn.* i. p. 142 (1790); *Shaw, Gen. Zool.* viii. p. 24 (1811); *Vieill. N. Dict. d'Hist. Nat.* iv. p. 593 (1816); *Raffl. Tr. Linn. Soc.* xiii. p. 291 (1822); *Merrem, Ersch u. Gruber, Encycl.* xiii. p. 284 (1824); *Wagl. Syst. Av.* Buceros, no. 4 (1827); *Less. Traité Orn.* p. 257 (1831); *Blyth, J. As. Soc. Beng.* xvi. p. 998 (1847).

Rhinoplax galeatus, *Gloger, Hand. u. Hilfsb.* p. 335 (1842).

Buceroturus galeatus, *Bonap. Consp. Gen. Av.* i. p. 89 (1850); *id. Consp. Vol. Anisod.* p. 2 (1854).

Adult male. Superciliary feathers and ear-coverts chestnut; lores, top of the head, and crest brownish black; breast, back, and wing-coverts dark brown, shading into brown on the scapulars, outer secondaries, rump, and upper tail-coverts, many of the last having buff centres; rest of secondaries and primaries black tipped with white; inner side of shoulders, bases of quills, belly, and rest of underparts white; centre tail-feathers very long (more than twice as long as the second pair and twice and a half as long as the outer pair), pale brown with white ends, outer pairs white, and all with a black subterminal band: naked skin round the eye, on the throat, neck, down the centre of the back, base of thighs, and underneath the wings indian red; iris, legs, and feet the same; anterior half of bill and front of casque yellow, posterior half of bill and rest of casque deep red like the throat. Total length 63 inches, wing 18·5, tail 34, tarsus 3·3.

Adult female. Differs from the adult male in size only. Total length about 50 inches, wing 16·5, tail about 26, tarsus 2·9.

Younger birds differ in the shape of the casque, which is rounded in front instead of being abruptly truncated.

Immature birds without a casque have the basal part of the bill greenish red and the naked parts yellowish (in the skin); the basal parts of the dark-brown breast-feathers are mixed with rufous and many of the least wing-coverts have buff tips; otherwise the plumage does not differ from that of the adult.

Hab. S. Tenasserim, Malay Peninsula, Sumatra, Borneo.

a. ♂ ad. sk.	Bankasoon, March (*Davison*).	Hume Coll.
b. Ad. sk.	Malawoon, Jan.	E. W. Oates [C.].
c. ♂ ad. sk.	Keddah (*Cantor*).	India Museum.
d, *e*. [♂] ♀ ad. et imm. sk.	Malacca.	Purchased.
f–*i*. ♂ ♀ imm. sk.	Malacca (*Maingay*).	Tweeddale Coll.
k. ♂ imm. sk.	Malacca, July.	Hume Coll.
l. ♂ imm. st.	Malacca.	H. Cuming, Esq. [P.].
m. ♀ ad. st.	Singapore.	
n, *o*. [♂ ♀] ad. sk.	Lawas River.	Governor Ussher [C.].
p, *q*. Imm. sk.	Baram, Sarawak.	C. Hose, Esq. [C.].

Doubtful species.

Buceros rostratus, Forst. Ind. Zool. p. 40 (1781).

Suborder TROGONES.

(By W. R. OGILVIE-GRANT.)

Palate schizognathous. Basipterygoids present. Sternum with four notches.

Femoro-caudal and semitendinosus muscles present, accessory femoro-caudal absent.

The first and second digits are turned backwards and supplied by the flexor longus hallucis; the front toes are supplied by the flexor perforans digitorum.

Pterylosis Passerine; spinal feather-tract well defined from nape to oil-gland, and not forked; the after-shafts to the contour-feathers are very long; down absent.

Oil-gland nude.

Cæca present.

This suborder comprises one family only.

Family TROGONIDÆ.

Bill short, strong, wide and curved, the tip of the culmen hooked; the edges of the mandibles serrated or smooth. Nostrils and base of the mandibles covered with well-developed bristles.

Tail-feathers 12.

Range. Indian, African, and Tropical-American Regions.

Key to the Genera.

I. Upper tail-coverts extend to or beyond the extremity of the tail ..... 1. PHAROMACRUS, p. 430.

II. Upper tail-coverts do not extend nearly to the extremity of the tail.

A. Centre pair of tail-feathers the same in both sexes:—

a. Purplish, bluish, or greenish, without a terminal black band.

a'. Sides of the face feathered; feathers behind the eye, and ear-coverts produced into long hair-like filaments; upper tail-coverts extend to the middle of the tail ..... 2. EUPTILOTIS, p. 436.

b'. Infraloral space feathered; gape and cheeks partially covered by a line of feathers from the lores to the ear-coverts; a space behind the eye naked; throat greenish or blackish ..... 6. HAPALODERMA, p. 477.

c'. Infraloral space, gape, cheeks, and space behind the eye naked; throat yellow ..... 8. HAPALARPACTES, p. 496.

b. Outer web and tip purplish blue; rest of inner web oil-green .... 3. TMETOTROGON, p. 437.

c. Bronzy green, shading into purplish blue at the tip, and deeply excised at the extremity ..... 4. PRIONOTELUS, p. 439.

d. Chestnut, with a black terminal band ..... 7. HARPACTES, p. 480.

B. Centre pair of tail-feathers different in the two sexes. (Bronze-green, blue, or purple, with a black terminal band in the males, and chestnut, grey, or blackish in the females.) ..... 5. TROGON, p. 440.

1. PHAROMACRUS.

	Type.
Pharomachrus, *De la Llave, Registr. Trim.* i. p. 48 (1831)	P. mocinno.
Calurus, *Swains. Class. B.* ii. p. 337 (1837).....	P. resplendens.
Antisianus, "*d'Orb.*," *Agass. Index Universal.* p. 27 (1846).	
Caliurus, *Agass. Index Universal.* p. 61 (1846).	
Cosmurus, *Reich. Av. Syst. Nat.* pl. 88 (1850)	[P. antisiensis.]
Pharomacrus, *Sclat. P. Z. S.* p. 60 (1858)	P. antisiensis.
Tanypeplus, *Cab. & Heine, Mus. Hein.* iv. p. 205 (1863)	P. pavoninus.

Central pair of tail-feathers the same in both sexes.

Median wing-coverts unusually developed; upper tail-coverts extending to the end of the tail or far beyond. Feathers of the head much lengthened and forming a large crest, or almost normal. Infraloral space and sides of the face feathered. Edge of the upper mandible not toothed behind the subterminal notch.

Range. Central and South America as far south as Bolivia.

Key to the Males.

(Upper breast blood-red, outer web of primaries black.)

I. Some of the upper tail-coverts enormously developed, at least four times as long as tail .... *mocinno*, p. 431.

II. Upper tail-coverts as long or slightly longer than the tail.

a. Greater part of three outer pairs of tail-feathers white ..... *antisiensis*, p. 433.

b. All the tail black.

a'. Bill yellow..... *auriceps*, p. 434.

b'. Bill red ..... *pavoninus*, p. 436.

Key to the Females.

(Upper breast brownish, outer web of primaries edged with buff.)

I. Three outer pairs of tail-feathers toothed with white.
  A. Bill black.
    a. White marks on outer tail-feathers extending across the inner web; head dull golden green ..... *mocinno*, p. 431.
    b. White marks on outer tail-feathers confined to outer webs except at the extremities; head brown ..... *antisiensis*, p. 433.
  B. Bill red ..... *paroninus*, p. 436.
II. Outer tail-feathers black ..... *auriceps*, p. 434.

1. Pharomacrus mocinno.

Quezal, *Newton, Encycl. Brit.* ed. 9, xx. p. 179 (1886).

Trogon pavoninus (*nec Spix*), *Temm. Pl. Col.* 372 (1825); *Less. Traité Orn.* p. 120 (1831); *Wilson, Ill. Zool.* pl. vi. (1831); *Dubois, Orn. Gal.* i. p. 79, pl. 49 (1839).

Pharomacrus mocinno, *La Llave, Registr. Trim.* i. p. 48 (1831); *Gray, Gen. B.* iii. App. p. 30 *a* (1849); *Würtemb. Naumannia*, 1852, p. 51; *Cab. & Heine, Mus. Hein.* Th. iv. p. 211 (1863); *Gould, Mon. Trogon.* ed. 2, pl. i. [text] (1875); *Garrod, P. Z. S.* 1875, p. 345, 1876, p. 511, pl. li. fig. 3; *Forbes, P. Z. S.* 1881, p. 837.

Calurus mocinno, *Bonap. Consp. Gen. Av.* i. p. 152 (1850).

Trogon resplendens, *Gould, P. Z. S.* 1835, p. 29, 1836, p. 12; *Bonap. P. Z. S.* 1837, p. 101; *Gould, Mon. Trog.* ed. i. pl. 21 [text] (1838).

Trogon (Calurus) resplendens, *Gould, Mon. Trog.* ed. i. List of Plates, sp. 21 (1838).

Calurus resplendens, *Swains. Class. B.* ii. p. 338 (1837); *Gould, Mon. Trog.* ed. i. *syn. sp.* Calurus, sp. 1 (1838); *Gray, Gen. B.* i. p. 71 (1845); *Gray, List Fissir. B. Brit. Mus.* p. 45 (1848); *Burm. Syst. Uebers. Th. Bras.* ii. p. 273, note 1 (1856).

Trogon paradiseus, *Bonap.* [1826, ubi?] *P. Z. S.* 1837, p. 101.

Calurus paradiseus, *Hartl. Verz. Mus. Brem.* p. 12 (1844); *Würtemb. Naumannia*, 1852, p. 51.

Pharomacrus paradiseus, *Sclat. & Salv. Ibis*, 1859, p. 132; *Taylor, Ibis*, 1860, p. 118; *Salvin, Ibis*, 1861, pp. 66, 138; *Sclat. Cat. Am. B.* p. 277 (1862); *Cab. J. f. O.* 1862, p. 175.

Trogon pavonius, *Glog. Hand- u. Hilfsb. Nat. Ges.* p. 201 (1842).

Pharomacrus mocinno, *La Llave*, var. costaricensis, *Boucard, P. Z. S.* 1878, p. 48.

"Pharomacrus mocina, *La Llave*, var. costaricensis, *Cab.*," *Boucard, Orn. Misc.* iii. p. 21 (1878).

"Pharomacrus costaricensis, *Cab.*," *Gould, Mon. Trogon.* ed. ii. pl. i. [in text] (1875); *Boucard, Orn. Misc.* iii. p. 21 (1878).

Adult male. Feathers of the head much lengthened, forming a rounded crest; median wing-coverts unusually long, and upper tail-coverts enormously developed, the centre pair being more than four times as long as the tail. Feathers of head, chest, back, lesser and median wing-coverts, rump, and upper tail-coverts bright

metallic green, washed with golden and with black bases; beast, belly, and under tail-coverts blood-red, darker on the upper breast; thighs black, edged with metallic green; primaries, secondaries, greater wing-coverts, and three centre pairs of tail-feathers black, the middle pair edged with metallic green; three outer pairs white, with black bases: bill yellow. Total length (to the end of the tail) 14·2 inches, wing 8·2, tail 8, tarsus 0·75.

Immature males resemble the adult female, but the buff edges of the outer webs of the primaries are toothed with black and the outer webs of the secondaries are largely intermixed with buff. The ends of the three outer pairs of tail-feathers are nearly pure white.

Adult female. Feathers on the lores somewhat lengthened and forming a short crest; median wing-coverts fairly developed, and upper tail-coverts not extending beyond the tail; head and chest brownish grey, washed with metallic green; rest of upper parts like those of the male, but less brilliant; throat, breast, and belly brownish grey; crissum and under tail-coverts red; primaries and most of the secondaries edged on the outer web with buff; three outer pairs of tail-feathers have the greater part of the outer and the end of the inner web white, barred with black: bill black. Total length 13·6 inches, wing 8·1, tail 7·5, tarsus 0·75.

Immature female has the general tone of the upper parts, wings, tail, breast, and belly brown, the metallic green parts of the adult being represented by dull green; the crissum, tail-coverts, and three outer pairs of tail-feathers as in the adult female: bill yellowish, brownish horn on the culmen.

Hab. High Forests of Central America from Guatemala to Veragua.

a. ♂ ad. st.	[Mexico.]	Hardwicke Bequest.
b–h. ♂ imm., ♀ ad. sk.	San Martin, Quezaltenango, Guatemala, Oct. (*Richardson*).	Salvin-Godman Coll.
i, *k*. ♂ imm. sk.	Pie de la Cuesta, San Marcos, Guatemala, Nov. (*Richardson*).	Salvin-Godman Coll.
l, *m*. ♂ ad. et imm. sk.	Vera Paz, Guatemala (*Salvin*).	Sclater Coll.
n. ♀ ad. sk.	Vera Paz, March (*Salvin*).	Gould Coll.
o. ♂ ad. sk.	Coban, Vera Paz.	Gould Coll.
p–u. ♂ ♀ ad. et imm. sk.	Rasché, Vera Paz, March (*Salvin*).	Salvin-Godman Coll.
v–a'. ♂ ♀ ad. et imm. sk.	Volcan de Fuego, Sept., Nov. (*Salvin*).	Salvin-Godman Coll.
b'. ♂ imm. sk.	Volcan de Fuego, Dec. (*Salvin*).	Tweeddale Coll.
c'–e'. ♂ ad. et imm. sk.	Volcan de Agua, Nov. (*Salvin*).	Salvin-Godman Coll.
f'. ♂ ad. sk.	Chilasco (*Salvin*).	Salvin-Godman Coll.
g'. ♀ ad. st.	Guatemala.	Zool. Soc. Coll.
h'. ♂ ad. sk.	Guatemala (*Salvin*).	Salvin-Godman Coll.
i'. ♂ ad. sk.	Costa Rica (*Carmiol*).	Salvin-Godman Coll.
k'. ♀ ad. sk.	San José, Costa Rica, May (*Zeledon*).	Salvin-Godman Coll.
l'. ♂ ad. sk.	Chiriqui, Panama.	Gould Coll.

m'. ♀ ad. sk.	Volcan de Chiriqui (*Arcé*).	Salvin-Godman Coll.
n'–r'. ♂ ♀ ad. et imm. sk.	Calovevora, Panama (*Arcé*).	Salvin-Godman Coll.
s'. ♂ ad. sk.	Calovevora, Panama (*Arcé*).	Gould Coll.
t'–v'. ♂ ad. sk.	Central America.	Gould Coll.
w'. Skull.		Salvin-Godman Coll.

2. Pharomacrus antisiensis.

Trogon antisiensis, *D'Orb. Voy. de l'Amér.* p. 381, pl. 66. fig. 1 (1835–44).

Pharomacrus antisiensis, *Sclat. P. Z. S.* 1858, p. 60; *Cab. & Heine, Mus. Hein.* Th. iv. p. 209 (1863); *Berl. & Taez. P. Z. S.* 1884, p. 308, 1885, p. 107.

Trogon antisianus, *D'Orb. Mag. de Zool., Ois.* pl. 85 (1837); *Burm. Syst. Uebers. Th. Bras.* ii. p. 273, note 2 (1856).

Calurus antisianus, *Gray, Gen. of B.* i. p. 71 (1845); *id. List Birds in Brit. Mus.* pt. ii. Sect. i. Fissirostres, p. 46 (1848); *Sclat. P. Z. S.* 1855, p. 137.

Pharomacrus antisianus, *Gould, Mon. Trog.* ed. ii. pl. ii. [text] (1858); *Sclat. P. Z. S.* 1860, p. 70; *id. Cat. Am. B.* p. 277 (1862); *Sclat. & Salv. P. Z. S.* 1879, p. 633; *Taez. Orn. Pérou*, iii. p. 177 (1886).

Trogon pulchellus, *Gould, Mon. Trog.* ed. i. pl. 22 [text] (1838).

Trogon (Calurus) pulchellus, *Gould, Mon. Trog.* ed. i. List of Plates, sp. 22 (1838).

Calurus pulchellus, *Gould, Syn. sp.* Calurus, sp. 9 (1838); *Gray, Gen. B.* i. p. 71 (1845); *Bonap. Consp. Gen. Av.* i. p. 152 (1850).

Pharomacrus pulchellus, *Bonap. Consp. Vol. Zyg.* p. 14 (1854).

Trogon peruvianus, *Gould, Monogr. Trog.* ed. ii. pl. ii. [in text] (1858).

Trogon fulgidus, *Gould, Mon. Trog.* ed. i. pl. 24 [text] (1838) [imm.].

Trogon (Calurus) fulgidus, *Gould, Mon. Trog.* ed. i. List of Plates, sp. 24 (1838).

Calurus fulgidus, *Gray, Gen. B.* i. p. 71 (1845); *id. List Birds in Brit. Mus.* pt. ii. Sect. i. Fissirostres, p. 46 (1848); *Bonap. Consp. Gen. Av.* i. p. 152 (1850); *Sclat. P. Z. S.* 1855, p. 137; *Burm. Syst. Uebers. Th. Bras.* ii. p. 273, note 5 (1856).

Cosmurus fulgidus, *Bonap. Consp. Vol. Zyg.* p. 14 (1854).

Pharomacrus fulgidus, *Gould, Mon. Trog*, ed. ii. pl. iii. [text] (1858); *Sclat. Cat. Am. B.* p. 277 (1862); *Salv. & Godm. Ibis*, 1879, p. 205; *Sclat. & Salv. P. Z. S.* 1879, p. 535.

Tanypeplus fulgidus, *Cab. & Heine, Mus. Hein.* Th. iv. p. 208 (1863).

Adult male. Feathers of the head, throat, chest, lesser and median wing-coverts, back, rump, and upper tail-coverts metallic green with black bases; those of the crest, head, and upper back more or less bronzed; feathers of the lores erect and forming a crest; primaries, secondaries, and greater wing-coverts black; breast, belly, and under tail-coverts blood-red, darker on the top of the breast; three middle pairs of tail-feathers black; three outer pairs white, with black bases; the middle and longest pair of tail-coverts extend about an inch beyond the tail: bill yellow. Total length 12·4 inches, wing 7·5, tail 6·3, tarsus 0·7.

In *less mature* specimens (*P. fulgidus*, Gould) the crest is less

developed, the head more bronze, and the basal half or more of the three outer pairs of tail-feathers is black; the outer webs of the primaries are buff and black. In still younger birds the chin and breast are greyish brown, while in a quite *young* specimen the tail is almost similarly marked to that of the female, but the feathers are more pointed and the outer webs of the secondaries as well as the primaries are mixed with buff.

Adult female. Head, throat, and breast dull brown; chest brown, washed with metallic green; rest of the upper parts as in the adult male, but the middle pair of upper tail-coverts are an inch shorter than the tail; the primaries and secondaries are edged with buff; tail black, the whole outer web of the sixth pair, half that of the fifth, and the extremity of the fourth pair toothed with white; bill black. Total length 12·1 inches, wing 7·6, tail 6·6, tarsus 0·7.

Hab. High forests of S. America, ranging from Venezuela through Colombia, Ecuador, to Bolivia.

a, b. ♂ ad. sk.	San José, Ecuador (*Buckley*).	Salvin-Godman Coll.
c. ♂ ad. sk.	Saravacu, Ecuador (*Buckley*).	Salvin-Godman Coll.
d–f. ♂ ♀ ad. sk.	Quito.	Gould Coll.
g–k. ♂ imm. st., ♂ imm., et ♀ ad. sk.	Bogota.	Sclater Coll.
l. ♂ imm. sk.	Bogota.	Purchased.
m. ♂ ad. sk.	Bogota.	Gould Coll.
n. ♂ ad. sk.	Bogota (*Bowman*).	Salvin-Godman Coll.
o, p. ♂ ad. sk.	Chiquinquirá, U.S.C. (*Wheeler*).	Salvin-Godman Coll.
q. ♀ ad. sk.	Concordia, U.S.C. (*Salmon*).	Salvin-Godman Coll.
r. ♂ ad. sk.	Santa Elena, U.S.C. (*Salmon*).	Salvin-Godman Coll.
s. ♂ imm. sk.	Chinchicua valley, Sierra de Santa Marta (*Simons*).	Salvin-Godman Coll.
t. ♂ ad. sk.	Merida, Venezuela (*Goering*).	Sclater Coll.
u, v. ♂ ♀ imm. st.	Aragua, Venezuela.	Purchased.
w. ♂ imm. sk.	Caracas, Venezuela (*Goering*).	Salvin-Godman Coll.
x. ♂ ad. st.	S. America.	E. Wilson, Esq. [P.].
y–b'. ♂ ♀ ad. st. et sk.	S. America.	Purchased.

3. Pharomacrus auriceps.

Trogon (Calurus) auriceps, *Gould*, *Ann. Mag. N. H.* ix. p. 238 (1842).

Calurus auriceps, *Hartl. Verz. Mus. Brem.* p. 12 (1844); *Gray, Gen. B.* i. p. 71 (1845); *Gray, List Birds in Brit. Mus.* pt. ii. Sect. i. Fissirostres, p. 46 (1848); *Bonap. Consp. Gen. Av.* i. p. 152 (1850); *Sclat. P. Z. S.* 1854, p. 110, 1855, p. 137.

Cosmurus auriceps, *Bp. Consp. Vol. Zyg.* p. 14 (1854).

Pharomacrus auriceps, *Gould, Mon. Trog.* ed. ii. pl. iv. [text] (1858), and pl. iv. *a* (1875); *Sclat. P. Z. S.* 1858, p. 60, 1859, p. 144, and 1860, p. 93; *id. Cat. Am. B.* p. 277 (1862); *Wyatt, Ibis*, 1871, p. 375; *Taez. P. Z. S.* 1879, p. 240; *Scl. & Salv. P. Z. S.* 1879, p. 535; *Taez. Orn. Pérou*, iii. p. 175 (1886).

Tanypeplus auriceps, *Cab. & Heine, Mus. Hein.* Th. iv. p. 207 (1863).

Tanypeplus heliactin, *Cab. & Heine, Mus. Hein.* Th. iv. p. 207 (1863).
Pharomacrus auriceps heliactin, *Berl. & Tacz. P. Z. S.* 1884, p. 308, and 1885, p. 107.
Pharomacrus xanthogaster, *Turati & Salvad. P. Z. S.* 1874, p. 652.
Trogon (Calurus) hargitti, *Oustalet, Le Nat.* xiii. p. 261 (1891).

Adult male. Head, throat, and cheeks green, glossed with golden bronze; feathers on the lores somewhat elongated and forming a small crest; feathers on the chest, back, lesser and greater wing-coverts, rump, and upper tail-coverts blood-red; thighs black, tipped with bronze; primaries, secondaries, and tail-feathers black; greater wing-coverts black, edged on the outer web with golden green: the upper tail-coverts extend about an inch and a half beyond the tail: bill yellow. Total length 14 inches, wing 8·3, tail 7·9, tarsus 0·8.

Immature male has no crest; throat and cheeks buff, rest of the head blackish, tipped with golden bronze; primaries and secondaries edged on the outer web with buff, and the scapulars and greater wing-coverts largely intermixed with the same colour; tip of the outer tail-feathers suffused with white: bill black.

Adult female. Resembles the adult male, but the throat, cheeks, and upper breast are bronze-brown; the primaries have the outer web edged with buff; the tips of the two outer pairs of tail-feathers are sometimes suffused with white, and the whole plumage is less brilliant; the long wing- and upper tail-coverts, too, are less developed, the latter scarcely reaching to the end of the tail: bill horn-coloured, blackish on the culmen. Total length 13·5 inches, wing 8·3, tail 8, tarsus 0·8.

Immature female has the wings and head of the immature male, and the upper breast brown, as in adult female.

Hab. High forests of S. America, ranging from Colombia to Peru.

a. ♂ ad. sk.	Ecuador.	Salvin-Godman Coll.
b. ♂ ad. sk.	Chiguinda, Ecuador, Feb. (*Villagomez*).	Salvin-Godman Coll.
c. ♂ ad. sk.	Sarayacu, Ecuador (*Buckley*).	Salvin-Godman Coll.
d–h. ♂ ♀ ad. et imm. sk.	Quito.	Gould Coll. (Types of the species.)
i. ♂ ad. sk.	U.S. Colombia (*Harris*).	Sclater Coll.
k. ♀ ad. sk.	U.S. Colombia.	Purchased.
l, m. ♂ ♀ ad. sk.	U.S. Colombia.	Salvin-Godman Coll.
n. ♂ ad. sk.	Bogota (*Nelson*).	Salvin-Godman Coll.
o, p. ♂ ad. sk.	Bogota.	Gould Coll.
q, r. ♂ ad. et imm. st.	Bogota.	Purchased.
s. ♀ imm. sk.	Bogota.	Sclater Coll.
t–v. ♂ ad. et imm. sk.	Fusagasugá, May (*Wheeler*).	Salvin-Godman Coll.
w, x. ♂ ♀ ad. sk.	Concordia (*Salmon*).	Salvin-Godman Coll.
y. ♂ imm. sk.	Sierra Nevada, Merida, Venezuela (*Goering*).	Gould Coll.

4. Pharomacrus pavoninus.

Trogon pavoninus, *Spix*, *Av. Bras.* i. p. 47, pl. xxxv. (1824); *Steph. in Shaw's Gen. Zool.* xiv. pt. i. p. 219 (1826); *Gould*, *P. Z. S.* 1833, p. 107, 1835, p. 29, 1836, p. 12; *id. Monog. Trog.* ed. i. pl. 23 [text] (1838).

Calurus pavoninus, *Swains. Class. of B.* ii. p. 338 (1837); *Gray*, *Gen. B.* i. p. 71 (1845); *Bonap. Consp. Gen. Av.* i. p. 293 (1850); *Burm. Syst. Uebers. Th. Bras.* ii. p. 273 (1856), and note, sp. 3.

Tanypeplus pavoninus, *Cab. & Heine*, *Mus. Hein.* Th. iv. p. 205 (1863).

Pharomacrus pavoninus, *Sclat. & Salv. P. Z. S.* 1867, p. 583; *Gould*, *Monog. Trog.* ed. ii. pl. v. (1869); *v. Pelz. Orn. Bras.* pp. 20, 403 (1868–71); *Sclat. & Salv. P. Z. S.* 1873, p. 293; *id. Nomencl. Av. Neotr.* p. 104 (1873); *Tacz. Orn. Pérou*, iii. p. 176 (1886).

Adult male. Head golden bronze, inclining slightly to green on the cheeks and throat; feathers on the lores not elongate; chest, back, lesser and median wing-coverts, rump, and upper tail-coverts metallic green with black bases, those of the back especially being also edged with bronze; primaries, secondaries, greater wing-coverts, and tail black; breast, belly, and under tail-coverts blood red; the middle pair of tail-coverts extend almost to the tip of the tail: bill *red*, yellow at the extremity. Total length 12·5 inches, wing 7·3, tail 6·4, tarsus 0·7.

Adult female. Differs from the male in having the top of the head brown, washed with green and bronze; the chest brown, washed with metallic green; cheeks, throat, and breast brownish grey; the primary and secondary quills with buff edges to the outer webs; the last third of the outer web of the outermost pair of tail-feathers, the terminal sixth of the next pair, and the end of the fourth pair toothed with white: extremity of bill blackish, base red. Total length 12·1 inches, wing 7·1, tail 6·2, tarsus 0·65.

Hab. Forests of the Upper Amazon and Rio Negro.

a. ♂ ad. sk.	Sarayacu, Ecuador (*Buckley*).	Salvin-Godman Coll.
b. ♀ ad. sk.	Chamicuros, Peruvian Amaz., Sept. (*Bartlett*).	Salvin-Godman Coll.
c. ♂ ad. sk.	Chamicuros, Peruvian Amaz., Sept. (*Bartlett*).	Sclater Coll.
d. ♂ ad. sk.	Chamicuros, Peruvian Amaz.	Gould Coll.
e. ♀ ad. sk.	Santa Cruz, Peruvian Amaz. (*Bartlett*).	Sclater Coll.
f. Imm. sk.	Barra do Rio Negro (*Wallace*).	Salvin-Godman Coll.
g. ♂ ad. sk.	Rio Xié, Rio Negro, June (*Natterer*).	Salvin-Godman Coll.
h. Skeleton.	Upper Ucayali.	Bartlett Coll.

2. EUPTILOTIS.

	Type.
Euptilotis, *Gould, Mon. Trog.* ed. ii. pl. 6 [in text] (1858)	E. neoxenus.
Leptuas, *Cab. & Heine, Mus. Hein.* iv. p. 206 (1863).	E. neoxenus.

Three central pairs of tail-feathers black, glossed with purplish

blue in both sexes. Infraloral space and sides of the face feathered. Feathers behind the eye and ear-coverts produced into long hair-like filaments. Upper tail-coverts extend to the middle of the tail. Bill very slender in proportion to the size of the bird. Upper mandible not toothed behind the subterminal notch.

Range. Mexico.

1. Euptilotis neoxenus.

Trogon neoxenus, *Gould, Mon. Trog.* ed. i. pl. 25 [text] (1838).
Trogon (Calurus) neoxenus, *Gould, Mon. Trog.* ed. i. List of Plates, sp. 25 (1838).
Calurus neoxenus, *Gray, Gen. B.* i. p. 71 (1845); *Gray, List Fissir. in Brit. Mus.* p. 46 (1848); *Bonap. Consp. Gev. Av.* i. p. 152 (1850).
Cosmurus neoxenus, *Bonap. Consp. Vol. Zyg.* p. 14 (1854).
Euptilotis neoxenus, *Gould, Mon. Trog.* ed. ii. pl. 6 [text] (1858).
Leptuus neoxenus, *Cab. & Heine, Mus. Hein.* Th. iv. p. 206 (1863).

Adult male. Head, cheeks, lengthened tufts behind the eyes, and throat black slightly glossed with bluish green, and the top of the head with dull bronze-green; ends of the feathers of the chest, sides of neck, back, lesser and median wing-coverts bronzy green, shading into bluish green on the lower back, rump, and upper tail-coverts, bases greyish black; breast, belly, and under tail-coverts blood-red; thighs blackish grey; primaries black, white towards the base of the outer web; secondaries black with white bases, and greater wing-coverts black, both edged with metallic green; bill blackish horn. Total length 13·3 inches, wing 8, tail 7·6, tarsus 0·7.

Adult female. Differs from the adult male in having the head, cheeks, and throat dull blackish grey, and the neck and chest grey, shading into brown on the breast. Otherwise the plumage is the same. Total length 13·3 inches, wing 8, tail 7·8, tarsus 0·7.

An *immature specimen*, probably a young female, resembles the adult, but the belly and under tail-coverts are pinkish, mixed with buff, and the outer secondaries show traces of having been blotched with buff.

Hab. Mexico.

a–e. ♂ ♀ ad. et imm. sk.	Sierra de Valparaiso, Mexico, July, Aug. (*Richardson*).	Salvin-Godman Coll.
f. ♀ ad. sk.	Sierra Madre, Nayarit, 8000 ft., Mexico, July (*Richardson*).	Salvin-Godman Coll.
g–i. ♂ ♀ ad. sk.	Mexico (*Floresi*).	Salvin-Godman & Gould Colls. (Types of the species.)
k. Imm. sk.	[Mexico.]	Purchased.

3. TMETOTROGON.

Temnotrogon, *Bonap. Consp. Vol. Zyg.* p. 14 (1854). Type. T. roseigaster.
Tmetotrogon, *Cab. & Heine, Mus. Hein.* iv. p. 166 (1863) ..... T. rhodogaster.

Centre pair of tail-feathers with the outer web and tip purplish

blue, the rest of the inner web oil-green, and the second and third pairs purplish blue in both sexes. Infraloral space and sides of the face feathered; ear-coverts produced into hair-like filaments. Upper tail-coverts not abnormally lengthened. Edge of upper mandible toothed behind the subterminal notch.

Range. San Domingo.

1. Tmetotrogon rhodogaster.

La Couroucou damoiseau, *Levaill. Hist. Nat. Couroue. & Tourac.* pt. iii. p. 17, pl. 13 (1806).

Trogon roseigaster, *Vieill. Encycl. Méth. Orn.* pt. iii. p. 1358 (1823); *Gould, Mon. Trog.* ed. i. pl. 20 [text] (1838); *Gray, Gen. B.* i. p. 69 (1845); *Bonap. Consp. Gen. Av.* i. p. 149 (1850); *Sclat. P. Z. S.* 1857, p. 235; *Sallé, P. Z. S.* 1857, p. 235; *Gould, Mon. Trogon.* ed. ii. pl. 32 [text] (1858); *Bryant, P. Bost. Soc. N. H.* xi. p. 95 (1866).

Temnurus roseigaster, *Gould, Mon. Trog., syn. sp.* Temnurus, sp. 2 (1838).

Trogon (Temnurus ?) roseigaster, *Gould, Mon. Trog.* ed. i. List of Plates, sp. 20 (1838).

Temnotrogon roseigaster, *Bonap. Consp. Vol. Zygod.* p. 14 (1854); *Gray, Hand-l. B.* i. p. 83 (1869); *Cory, B. Haiti & San Domingo*, p. 95 (1885); *id. List B. W. Ind.* p. 18 (1885); *Cory, B. W. Ind.* p. 155 (1889).

Tmetotrogon roseigaster, *Gould, Mon. Trog.* ed. ii. Syn. of Species, p. xix (1875).

Trogon domicellus, *Cuv. Règ. Anim.* ed. ii. i. p. 459 (1829).

Trogon rhodogaster, *Temm. Pl. Col.* iii. gen. Couroue. sp. 14 (1825).

Tmetotrogon rhodogaster, *Cab. & Heine, Mus. Hein.* Th. iv. p. 166 (1863).

Temnotrogon rhodogaster, *Sclat. & Salv. Nom. Av. Neotr.* p. 103 (1873).

Adult male. Differs from the female in having the wing-coverts blackish washed with bronze, without any white bars, the secondaries uniform blackish grey, and the outer webs of the primaries margined but not barred on the outer web with white. Total length 11·5 inches, wing 5·6, tail 6·5, tarsus 0·7.

In a somewhat younger specimen the terminal portion of the outer web of the primaries has traces of bars like that of the female.

Adult female. Lores and chin black; cheeks, ear-coverts, and throat darker grey; the ear-coverts long and hair-like at the ends; top of the head dull olive-green, becoming bronze on the occiput; back, least wing-coverts, rump, and upper tail-coverts bronze-green; chest and upper breast pale grey; lower breast and rest of under parts blood-red; wings black, quills with white bases; primaries margined on the basal part and barred on the terminal part of the outer web with white; greater primary-coverts and inner secondaries toothed on the outer web with white; rest of wing-coverts and secondaries with narrow distinct bars of white on both webs; tail with a well-marked subterminal oval dark purplish-blue spot, rudimentary or absent on the outer web of the two outer pairs of tail-feathers,

and sometimes also on the fourth: bill pale yellow; feet flesh. Total length 11·5 inches, wing 5·6, tail 6·4, tarsus 0·7.

Hab. San Domingo.

a, b. ♂ ♀ ad. sk.	San Domingo (*Sallé*).	Salvin-Godman Coll.
c, d. ♂ ♀ ad. sk.	San Domingo (*Sallé*).	Gould Coll.
e, f. ♂ ♀ ad. sk.	San Domingo.	A. Sallé [C.].
g, h. ♂ ♀ ad. st.	San Domingo.	A. Sallé [C.].

4. PRIONOTELUS.

	Type.
Temnurus (*nec Less.* 1831), *Swains. Class. B.* ii. p. 337 (1837)	P. albicollis.
Priotelus, *Gray, List Gen. B.* p. 10 (1840)	P. temnurus.
Prionotelus, *Reich. Av. Syst. Nat.* pl. 88 (1850)	P. temnurus.

Sexes entirely similar. Centre pair of tail-feathers bronzy green, shading into purplish blue at the tip, second and third pairs purplish green; all the feathers deeply excised. Infraloral space and sides of the face feathered; the ear-coverts produced into long hair-like filaments. Upper tail-coverts normally developed. Edge of upper mandible toothed behind the subterminal notch.

Range. Cuba.

1. Prionotelus temnurus.

Trogon temnurus, *Temm. Pl. Col.* iii. pl. 326 (1825); *Vig. Zool. Journ.* iii. p. 443 (1827); *Less. Traité d'Orn.* p. 120 (1831); *Gould, Mon. Trogon*, ed. i. pl. 19 [text] (1838); *D'Orb. in Ramon de la Sagra's Hist. Nat. Cuba*, iii. p. 165, Atlas, pl. xxvi. (1840); *Gundl. J. Bost. Soc. N. H.* vi. p. 319 (1857).

Priotelus temnurus, *Gray, List Gen. B.* p. 10 (1840); *Gray, Gen. B.* i. p. 70 (1845); *Bonap. Consp. Av.* i. p. 150 (1850); *Gundl. J. f. O.* 1856, p. 106; *Brewer, Pr. Bost. Soc. N. H.* vii. p. 307 (1860); *Gray, Hand-l. B.* i. p. 83 (1869); *Gundl. Rep. Fisico-Nat. Cuba*, i. p. 298 (1866); *id. J. f. O.* 1874, p. 165; *Cory, B. West Ind.* p. 155 (1889).

Prionotelus temnurus, *Cab. & Heine, Mus. Hein.* Th. iv. p. 164 (1863).

Prionoteles temnurus, *Sclat. & Salv. Nom. Av. Neotr.* p. 103 (1873).

Prionoteles temnurus, *Cory, List B. W. I.* p. 18 (1885).

Temnurus albicollis, *Swains. Class. B.* ii. p. 337 (1837).

Trogon (Temnurus) albicollis, *Gould, Mon. Trogon.* ed. i. List of Plates, sp. 19 (1838).

"Temnurus silens, *Herz. Württemb.*," *Hartl. in Naumannia*, ii. p. 51 (1852).

Adult male. Lores, cheeks, and ear-coverts black, the latter produced into hair-like filaments; top of the head and nape black, glossed with dark greenish blue and purple; back, lesser and median wing-coverts bronze-green, shading into dark green on the rump and upper tail-coverts; chin, throat, and breast pale grey, palest on the chin and lower breast, shafts of chin-feathers black and bristle-like; belly and under tail-coverts blood-red; thighs

dark grey, edged with white; primaries black, the first and second toothed with white on the outer web, the remainder with the basal part margined and the terminal part toothed with white, the extent of the margin increasing and the number of white notches diminishing on the inner primaries: secondaries, greater primary and secondary coverts black glossed with dark green, the former with white bases, and all three ornamented with a subterminal white spot, usually confined to the edge of the outer web, but extending across both on the outer secondaries and their coverts; three outer pairs of tail-feathers with the basal part black slightly glossed with blue, and the remainder white*—the white on the outer web extending nearly to the base on the outer pair of feathers, while in the fourth and fifth pairs it takes the form of oblong spots among the black; a subterminal white spot next the shaft on the black of the inner web in the two outer pairs: culmen black, lower mandible and base of upper red; feet dark flesh. Total length 10·2 inches, wing 5·1, tail 10·2, tarsus 0·7.

The *adult female* resembles the male.

Hab. Cuba.

a. Ad. st.	Cuba.	Purchased.
b, c. Ad. sk.	Cuba.	Sclater Coll.
d. Ad. sk.	Cuba (*Wright*).	Salvin-Godman Coll.
e. Ad. sk.	Cuba (*McLeannan*).	Salvin-Godman Coll.
f, g. Ad. sk.	San Cristobal, Cuba.	Salvin-Godman Coll.
h. ♂ ad. sk.	Remedios, Cuba, Feb. (*Bryant*).	Mrs. Bryant [P.].
i. Ad. sk.	[Cuba.]	Gould Coll.
k. Ad. sk.	[Cuba.]	Laugier Coll.

5. TROGON.

	Type.
Trogon, *Linn. S. N.* i. p. 167 (1766)	T. strigilatus.
Trogonurus, *Bonap. Consp. Zyg.* p. 14 (1854)	T. collaris.
Curucujus, *ibid.* p. 14 (1854)	T. melanurus.
Pothinus, *Cab. & Heine, Mus. Hein.* iv. p. 180 (1863).	T. atricollis.
Aganus, *iid. l. c.* p. 184 (1863)	T. braccatus.
Hapalophorus, *iid. l. c.* p. 199 (1863)	T. surucua.
Troctes, *iid. l. c.* p. 201 (1863)	T. melanurus.

Sexes with the centre pair of tail-feathers different—bronze-green, blue, or purple, with a terminal black band in the males, and chestnut, grey, or blackish in the females. Infraloral space and sides of the face feathered. Upper tail-coverts normal. Upper mandible behind the subterminal notch more or less toothed.

Range. Mexico, Central and South America north of about the Tropic of Capricorn.

* In some specimens the subterminal part of the white of the outer web and the basal part of the inner are speckled with brownish black.

Key to the Species.

I. Three outer pairs of tail-feathers tipped with white.
  A. Males with the chest bronze-green. Females with upper parts olive-brown.
    a. Lower belly blood-red or orange.
      a'. Centre pair of tail-feathers metallic green or bronze. (*Males.*)
        a''. Three outer pairs of tail-feathers with a square terminal white band, much wider than the rest if present.
          a'''. Remainder of the outer pairs of tail-feathers black ..... *mexicanus* ♂, p. 444.
          b'''. Remainder of the outer pairs of tail-feathers black with obsolete white bars..... *personatus* ♂, p. 446.
          c'''. Remainder of the outer pairs of tail-feathers with black and white bars of equal width .... *collaris* ♂, p. 448.
          d'''. Remainder of the outer pairs of tail-feathers white with narrow black bars..... *elegans* ♂, p. 449.
          e'''. Remainder of the outer pairs of tail-feathers white freckled with black ..... *ambiguus* ♂, p. 451.
        b''. Terminal white band of three outer pairs of tail-feathers not, or only slightly, wider than the rest of the bars.
          f'''. Belly red ..... *puella* ♂, p. 452.
          g'''. Belly deep orange ..... *auranteiventris* ♂, p. 454.
      b'. Centre pair of tail-feathers reddish brown. (*Females.*)
        c''. Scarlet of underparts separated from the white pectoral band by the brown upper breast ..... *mexicanus* ♀, p. 444.
        d''. Scarlet or orange of underparts extending to the white pectoral band.
          h'''. Throat and cheeks deep black . *personatus* ♀, p. 446.
          i'''. Throat and cheeks greyish or brownish.
            *a*⁴. Ring of white feathers round the eye forming a small patch behind; terminal white bar of three outer pairs of tail-feathers wider ..... *collaris* ♀, p. 448.
            *b*⁴. Ring round the eye usually absent, or very slight if present; terminal white bar of three outer pairs of tail-feathers narrower.
              *a*⁵. Belly red ..... *puella* ♀, p. 452.
              *b*⁵. Belly orange ..... *auranteiventris* ♀, p. 454.

e''. Scarlet of underparts separated from the white pectoral band by the whitish lower breast and upper belly.

k'''. Three outer pairs of tail-feathers have the black bars, except the last one or two, broken up into freckles ..... *ambiguus* ♀, p. 451.

l'''. Three outer pairs of tail-feathers have the black bars separate and distinct ..... *elegans* ♀, p. 449.

b. Lower belly yellow.

c'. Centre pair of tail-feathers metallic green glossed with blue or bronze . *atricollis* ♂, p. 455.

d'. Centre pair of tail-feathers reddish brown ..... *atricollis* ♀, p. 455.

B. Males with the chest dark bluish green, purple, or dark grey. Females with the upper parts grey.

c. Centre pair of tail-feathers metallic green, bronze, or blue. (*Males.*)

e'. Wing-coverts uniform black or dark grey.

f''. Breast and rest of underparts vermilion; chest blackish grey, slightly glossed with purple .... *bairdi* ♂, p. 461.

g''. Breast and rest of underparts orange-yellow or lemon-yellow.

m'''. A white pectoral band; chest grey, slightly glossed on the sides with green; rest of the underparts lemon-yellow .... *citreolus* ♂, p. 461.

n'''. No white pectoral band. [p. 462.

*c*⁴. Head and chest blackish grey. *melanocephalus* ♂,

*d*⁴. Head and chest purple.

*c*⁵. Outer pair of tail-feathers black, with the last third white..... *viridis* ♂, p. 458.

*d*⁵. Outer pair of tail-feathers white, with only the base black..... *chionurus* ♂, p. 460.

*e*⁵. Outer pair of tail-feathers black, barred and tipped with white ..... *ramonianus* ♂, p. 468.

f'. Wing-coverts black, finely vermiculated with white; belly and underparts orange-yellow, no white pectoral band; head and chest purple; outer pair of tail-feathers black, barred and tipped with white .... *meridionalis* ♂, p. 467.

g'. Wing-coverts finely vermiculated with black and white.

h''. Breast and belly yellow; head black, nape and chest purplish blue; white pectoral band; outer tail-feathers black, barred and tipped with white ..... *caligatus* ♂, p. 465.

i''. Breast and belly blood-red or orange.
o'''. Outer pair of tail-feathers barred with black and white; belly blood-red.
*e*⁴. Back glossed with golden green; a white pectoral band; three outer pairs of tail-feathers widely tipped with white, and equally barred with black and white ..... *variegatus* ♂, p. 468.
*f*⁴. Back glossed with bluish green; no pectoral band; three outer pairs of tail-feathers black, narrowly barred and tipped with white ..... *bolivianus* ♂, p. 470.
p'''. Outer pair of tail-feathers with the basal half black.
*g*⁴. Belly red..... *surucura* ♂, p. 471.
*h*⁴. Belly orange ..... *aurantius* ♂, p. 471.
d. Centre pair of tail-feathers grey or blackish grey. (*Females.*)
h'. Belly vermilion ..... *bairdi* ♀, p. 461.
i'. Belly yellow.
k''. Wing-coverts uniform black or dark grey.
q'''. A white pectoral band; outer pair of tail-feathers black, with the last third white..... *citreolus* ♀, p. 461.
r'''. No pectoral band; outer pair of tail-feathers black, squarely tipped with white ..... *melanocephalus* ♀, p. 462.
l''. Wing-coverts black, with narrow distinct white bars.
s'''. Wing 5·6 or more.
*i*⁴. Outer pair of tail-feathers black, tipped and toothed on the outer web with white .. *viridis* ♀, p. 458.
*k*⁴. Outer pair of tail-feathers black, with the last third white..... *chionurus* ♀, p. 460.
t'''. Wing ca. 5·0 or less.
*l*⁴. Outer pair of tail-feathers black, tipped and toothed on the outer web with white .. *ramonianus* ♀, p. 468. *meridionalis* ♀, p. 467. *caligatus* ♀, p. 465.
k'. Belly blood-red or pale orange.
m''. Outer pair of tail-feathers black, tipped and toothed on the outer web with white ..... *bolivianus* ♀, p. 470.
n''. Outer pair of tail-feathers black, with the outer web and tip white.
u'''. Belly blood-red.
*m*⁴. Wing 4·7 ..... *variegatus* ♀, p. 468.
*n*⁴. Wing 5·7 ..... *surucura* ♀, p. 471.
v'''. Belly orange..... *aurantius* ♀, p. 471.

II. None of the tail-feathers tipped with white.
C. Centre pair of tail-feathers and chest green, glossed with blue or bronze. (*Males.*)
e. Outer pair of tail-feathers uniform black.
l'. A white pectoral band.
o''. Wing 6·2, tail 6 ..... *melanurus* ♂, p. 472.
p''. Wing 6·6, tail 7·1 ..... *macrurus* ♂, p. 474.
m'. No white pectoral band; wing 7·2, tail 7·1 ..... *massena* ♂, p. 474.
f. Outer pair of tail-feathers black, with narrow distinct bands of white across both webs and extending nearly to the base of the feather ..... *clathratus* ♂, p. 476.
D. Centre pair of tail-feathers and chest grey. (*Females.*)
g. Outer pair of tail-feathers black; breast grey like the chest.
n'. Wing 6·2, tail 6 ..... *melanurus* ♀, p. 472.
o'. Wing 6·5, tail 6·8 ..... *macrurus* ♀, p. 474.
p'. Wing 7·2, tail 6·9 ..... *massena* ♀, p. 474.
h. Outer pair of tail-feathers black, with narrow distinct bands of white across both webs, and extending nearly to the base of the feather; breast brown, contrasting with the dark grey chest . *clathratus* ♀, p. 476.

1. Trogon mexicanus.

Trogon mexicanus, *Swains. Phil. Mag.* p. 440 (1827); *id. Zool. Ill.* (2) pls. 82 & 107 [♂ imm., ♀ ad.] (1831–33); *Gould, Monog. Trog.* ed. i. pls. i. & ii. [text] (1838); *Gray, Gen. B.* i. p. 70 (1845); *id. List Fissir. Brit. Mus.* p. 41 (1848); *Bonap. Consp. Gen. Av.* i. p. 150 (1850); *Sclat. P. Z. S.* 1858, pp. 367, 387; *Sclat. & Salv. Ibis*, 1859, p. 132, 1860, p. 41; *Sclat. Cat. Am. B.* p. 276 (1862); *Cab. & Heine, Mus. Hein.* Th. iv. p. 168 (1863); *Garrod, P. Z. S.* 1873, pp. 464, 631; *Sclat. & Salv. Nomenel. Av. Neotr.* p. 103 (1873); *Gould, Mon. Trog.* ed. ii. pl. vii. [text] (1875); *Garrod, P. Z. S.* 1876, p. 511.

Trogonurus mexicanus, *Bonap. Consp. Vol. Zyg.* p. 14 (1854).

Trogon (Trogonurus) mexicanus, *Gray, Hand-l. B.* i. p. 82 (1869).

Trogon glocitans, *Licht. Preis-Verz. Mex. Th. v. Deppe u. Schiede*, p. 1 (1830); *id. J. f. O.* 1863, p. 55.

"Trogon morgani, *Swains.*," *Gould, Mon. Trog.* ed. i. text to pl. 1 (1838).

Adult male. Lores, cheeks, chin, and throat black; rest of head, chest, sides of neck, and back bronze-green, shading into bluish grey on the rump and upper tail-coverts; a white band across the upper breast; rest of underparts blood-red; thighs black; wings black, bases of the inner primaries and the secondaries white; lesser, median, greater secondary-coverts, and outer web of secondaries finely vermiculated with white; middle tail-feathers green, with a terminal black band; second and third pairs black, more or less glossed with green on the outer web, and the three outer pairs

black with the last inch white: bill yellow. Total length 12 inches, wing 6, tail 7·1, tarsus 0·75.

Immature males differ from the adult in having the breast immediately below the white band and the under tail-coverts mixed with brownish-olive and buff feathers, the outer webs of the primaries white-edged, those of the secondaries vermiculated with buff, the centre pair of tail-feathers mixed with rufous at the extremity, while the three outside pairs resemble those of the adult females, but are less regularly marked. In still younger examples the plumage of the upper and underparts is like that of the female interspersed with that of the male, and the under tail-coverts are all tawny; the median wing-coverts and scapulars have large terminal buff spots edged with black.

Adult female. Head, throat, chest, upper breast, back, rump, and upper tail-coverts olive-brown; a ring of white feathers round the eye, widened into a small patch behind; a white band across the upper breast; lower breast, belly, and under tail-coverts scarlet: thighs black; primaries and secondaries brownish black with white bases, the former edged on the outer web with white, and the latter finely vermiculated with brownish buff, as are also the lesser, median, and greater secondary-coverts; middle pair of tail-feathers rufous-brown, with a buff and black terminal band; second and third pairs black, and three outer pairs black with an irregular wedge-shaped white terminal portion, and the margins of both the inner and outer webs toothed with white: bill blackish horn, yellowish on the lower mandible. Total length 11·6 inches, wing 5·6, tail 7, tarsus 0·6.

An *immature female* resembles the adult, but the median wing-coverts and scapulars have large terminal buff spots edged with black.

Hab. Mexico and Guatemala.

a. Ad. st.	Real del Monte, Mexico.	J. Taylor, Esq. [P.]. (*Trogon moryani*, Swains.)
b, c. ♂ ad. et imm. sk.	Sierra del Nayarit, June (*Richardson*).	Salvin-Godman Coll.
d–g. ♂ ad. sk.	Sierra de Bolaños, Mar. (*Richardson*).	Salvin-Godman Coll.
h. ♂ imm. sk.	Santana, Jalisco, Aug. (*Lloyd*).	Salvin-Godman Coll.
i–l. ♂ ♀ ad. sk.	Sierra Nevada de Colima, April (*Lloyd*).	Salvin-Godman Coll.
m–p. ♂ ♀ ad. sk.	Sierra Nevada de Colima, Dec. (*Richardson*).	Salvin-Godman Coll.
q. ♀ ad. sk.	Chimalpa (Tacubaya), Valley of Mexico, July (*Ferrari-Perez*).	Salvin-Godman Coll.
r. ♂ imm. sk.	Coapa (Tlampam), Valley of Mexico, March (*Ferrari-Perez*).	Salvin-Godman Coll.
s. ♂ imm. sk.	Tenango de Valle, Mexico, Oct. (*Richardson*).	Salvin-Godman Coll.
t x. ♂ ♀ ad. et imm. sk.	Rio Frio, Ixtaccihuatl, Sept. (*Richardson*).	Salvin-Godman Coll.
y, z. ♂ ad. et imm. sk.	Near City of Mexico.	Salvin-Godman Coll.

a'. ♂ imm. sk.	Coatepec, Vera Cruz, Nov. (*Trujillo*).	Salvin-Godman Coll.
b'. ♂ imm. sk.	Capre de Perote, Nov. (*Trujillo*).	Salvin-Godman Coll.
c' k'. ♂ ♀ ad. et imm. sk.	Omilteme, Guerrero, July (*Smith*).	Salvin-Godman Coll.
l', m'. ♂ ad. sk.	Villa Alta, Oaxaca, March (*Trujillo*).	Salvin-Godman Coll.
n'. ♂ imm. sk.	Juchatengo, Oaxaca, April (*Trujillo*).	Salvin-Godman Coll.
o'. ♂ ad. sk.	Oaxaca, June (*Trujillo*).	Salvin-Godman Coll.
p'. ♂ ad. sk.	Oaxaca (*Fenochio*).	Salvin-Godman Coll.
q'–s'. ♂ ♀ ad. et imm. sk.	Mexico (*D'Oca*).	Gould Coll.
t'. ♂ imm. sk.	Parada, Mexico (*Rébouch*).	Sclater Coll.
u'. ♀ ad. sk.	Guatemala.	Tweeddale Coll.
v'. ♀ ad. sk.	Santa Cruz Mts., Vera Paz, Dec. (*Salvin*).	Tweeddale Coll.
w'–z'. ♂ ♀ ad. et imm. sk.	San Gerónimo, Vera Paz, Dec. (*Salvin*).	Salvin-Godman Coll.
a'', b''. ♂ ♀ ad. et imm. sk.	San Gerónimo, Vera Paz, Dec. (*Salvin*).	Gould Coll.
c''. ♂ ad. sk.	Volcan de Fuego, Jan. (*Salvin*).	Gould Coll.
d''. ♂ imm. sk.	Volcan de Fuego (*Salvin*).	Salvin-Godman Coll.
e''–i''. ♂ ♀ ad. et imm. sk.	Santa Maria, near Quezaltenango, Aug. (*Richardson*).	Salvin-Godman Coll.
k''. ♂ ad. sk.	San Martin, Quezaltenango, Oct. (*Richardson*).	Salvin-Godman Coll.
l''. ♀ ad. sk.	Chuipaché, Quezaltenango, Sept. (*Richardson*).	Salvin-Godman Coll.
m''. Skeleton.	Volcan de Fuego.	Salvin-Godman Coll.
n'', o''. Skeleton.	Volcan de Fuego.	Salvin-Godman Coll.

2. Trogon personatus.

Trogon personata, *Gould, Ann. & Mag. N. H.* ix. p. 237 (1842).

Trogon personatus, *Gray, Gen. B.* i. p. 70 (1845); *Bonap. Consp. Gen. Av.* i. p. 150 (1850); *Sclat. P. Z. S.* 1855, p. 137, 1858, p. 555, 1859, p. 144, 1860, p. 93; *id. Cat. Am. B.* p. 227 (1862); *Gould, Mon. Trog.* ed. ii. pl. x. [text] (1875); *Sclat. & Salv. P. Z. S.* 1879, p. 632; *Salvin, Ibis*, 1886, p. 60.

Trogonurus personatus, *Bp. Consp. Vol. Zyg.* p. 14 (1854).

Trogon (Trogonurus) personatus, *Gray, Hand-l. B.* i. p. 82 (1869).

Trogon heliothrix, *Tsch. Wiegm. Arch.* p. 300 (1844), *et Faun. Peruana*, pp. 41, 257 (1845–46); *Gray, Gen. B.* iii. App. p. 4 (1849); *Bonap. Consp. Gen. Av.* i. p. 150 (1850); *Tacz. P. Z. S.* 1874, p. 547, 1882, p. 43.

Trogon assimilis, *Gould, P. Z. S.* 1846, p. 67; *Gray, Gen. B.* iii. App. p. 4 (1849); *Bonap. Consp. Gen. Av.* i. p. 150 (1850).

Trogonurus assimilis, *Bonap. Consp. Vol. Zyg.* p. 14 (1854).

Trogon propinquus, *Cab. & Heine, Mus. Hein.* Th. iv. p. 175 (1863).

Trogon personatus propinquus, *Berl. & Tacz. P. Z. S.* 1884, p. 307, 1885, p. 107; *Tacz. Orn. Pérou*, iii. p. 166 (1886).

Trogon personatus heliothrix, *Tacz. Orn. Pérou*, iii. p. 167 (1886).

Adult male. Lores, cheeks, and throat deep black; rest of head, chest, sides of the neck, back, rump, and upper tail-coverts bronze-

green, inclining to bluish on the head and upper tail-coverts: a white pectoral zone separates the chest from the breast, belly, and under tail-coverts, which are blood-red; thighs black; primaries and secondaries black with white bases, the former with white margins to, and the latter with fine white vermiculations on, the outer web; greater primary wing-coverts black, rest of the coverts black, finely vermiculated with white; centre pair of tail-feathers bronze-green, with black terminal bar; second and third pairs the same, but the inner web black; three outer pairs black, obsoletely barred with white, and each with a wide terminal white band: bill yellow, blackish on the upper part of the culmen. Total length 11 inches, wing 5·2, tail 6·3, tarsus 0·6.

A male after the first moult differs from the above in having the white bars narrow but distinct.

An immature male has many of the white feathers in the pectoral zone finely barred with black, and the plumage of the underparts, especially the under tail-coverts, mixed with rufous feathers; the greater secondary-coverts and the secondaries resemble those of the adult female, but are also blotched with buff at the extremities; the lesser and median coverts are like those of the adult male; the middle pair of tail-feathers have the extremity rufous, which is repeated in the second and third pairs in a less degree; the three outer pairs are black; most of the outer webs and a wide terminal part white, mixing irregularly with the black; the margins are in addition irregularly mixed with rufous-buff and marked with black.

Adult female. Lores, cheeks, and throat deep black, rest of head, chest, back, rump, and upper tail-coverts olive-brown; a white pectoral band separates the chest from the red breast, belly, and under tail-coverts; thighs blackish grey; wings as in the male adult, but the coverts are finely vermiculated with buff; middle tail-feathers rufous-brown with black terminal band; second and third pairs the same, but the inner web black; three outer pairs black, banded with white on the outer and terminal half of the inner webs, and each with a wide white terminal bar: bill yellow. Total length 10·4 inches, wing 5·1, tail 6·1, tarsus 0·55.

An *immature female* differs from the above in having the under tail-coverts mostly rufous-buff, while the tail-feathers resemble those of the immature male.

Hab. Ranging from Bolivia through Peru, Ecuador, Colombia, Venezuela, and British Guiana.

a, b. ♂ ♀ ad. sk.	Tilotilo, Prov. Yungas, Bolivia (*Buckley*).	Salvin-Godman Coll.
c. ♂ ad. sk.	Peru.	Gould Coll. (Type of the species.)
d. ♂ ad. sk.	Huasampilla, July (*Whitely*).	Salvin-Godman Coll.
e. ♀ ad. sk.	Cosnipata, July (*Whitely*).	Salvin-Godman Coll.
f. ♀ ad. sk.	Ecuador.	Salvin-Godman Coll.
g, h. ♂ imm. sk.	Maraviña (*Villagomez*).	Salvin-Godman Coll.
i. ♂ ad. sk.	San Lucas (*Villagomez*).	Salvin-Godman Coll.
k. ♂ ad. sk.	Matos, June (*Fraser*).	Sclater Coll.
l, m. ♂ ad. sk.	Quito.	Gould Coll.

n. ♂ ad. st.	Colombia.	Purchased.
o, *p*. ♀ ad. et imm. sk.	Colombia.	Gould Coll.
q, *r*. ♂ ♀ ad. sk.	Colombia.	Salvin-Godman Coll.
s–*u*. ♂ ♀ ad. sk.	Bogota.	Gould Coll.
v. ♀ ad. sk.	Bogota.	Sclater Coll.
w–*z*. ♂ ♀ ad. sk.	Zitaguira (*Wheeler*).	Salvin-Godman Coll.
a'. ♀ ad. sk.	Fusagasugá, May (*Wheeler*).	Salvin-Godman Coll.
b', *c'*. ♂ ad. sk.	Venezuela.	Gould Coll.
d'–*f'*. ♂ ♀ ad. sk.	Roraima, Brit. Guiana, Jan., Nov., Dec. (*Whitely*).	Salvin-Godman Coll.

3. Trogon collaris.

? Curucui, *Marcgrave, Hist. Bras.* p. 211.

? Trogon brasiliensis viridis, *Briss. Orn.* iv. p. 173 (1760).

? Trogon curucui, *Linn. S. N.* p. 167 (1766).

Le Couroucou rosalba, *Levaill. Hist. Nat. Ois. Couroue. et Tourac.* pt. iii. p. 12, pl. vi. (1806).

Trogon collaris, *Vieill. N. Dict. d'Hist. Nat.* viii. p. 320 (1817); *id. Encycl. Méth.* iii. p. 1362 (1823); *Less. Traité Orn.* p. 119 (1831); *Gould, Mon. Trog.* ed. i. pl. 5 [text] (1838); *Gray, Gen. B.* i. p. 69 (1845); *id. List Fissir. Brit. Mus.* p. 41 (1848); *Bonap. Consp. Gen. Av.* i. p. 149 (1850); *Burm. Syst. Uebers. Th. Bras.* ii. p. 276 (1856); *v. Pelzeln, Sitz. Akad. Wien*, xx. p. 506 (1856); *Taylor, Ibis*, 1864, p. 88; *v. Pelz. Orn. Bras.* pp. 19 & 403 (1868–71); *Finsch, P. Z. S.* 1870, p. 559; *Sclat. & Salv. P. Z. S.* 1873, p. 293; *Tacz. P. Z. S.* 1874, p. 547; *Gould, Mon. Trog.* ed. ii. pl. xiii. [text] (1875); *Sclat. & Salv. P. Z. S.* 1879, p. 534; *Tacz. P. Z. S.* 1880, p. 210, 1882, p. 43; *id. Orn. Pérou*, iii. p. 163 (1886).

Trogon (Trogonurus) collaris, *Gray, Hand-l. B.* i. p. 82 (1869).

Trogonurus collaris, *Bonap. Consp. Vol. Zyg.* p. 14 (1854).

Trogon castaneus, *Spix, Av. Bras.* i. p. 48, pl. 37 [♀] (1824).

Trogon auratus, *Swains. An. in Menag.* p. 329 (1837?); *id. Class. B.* p. 337 (1837); *id. B. Braz. & Mexic.* pls. 61 & 62 [♂ ♀] (1841).

Trogon rosalba, *Cuv. Règ. Anim.* i. p. 459 (1829); *Hartl. Verz. Mus. Brem.* p. 12 (1844).

Trogon eytoni, *Fraser, P. Z. S.* 1856, p. 368.

Trogon elegans, *Licht.* (*nec Gould*) *in Mus. Berol.* [*fide Cab. & Heine, Mus. Hein.* iv. p. 178 (1863)].

Trogon erythrinus, *Licht. in Mus. Berol.* [*iid. l. c.*]

Trogon exoptatus, *Cab. & Heine, Mus. Hein.* Th. iv. p. 179 (1863).

Trogon curucui, *Hahn, Vög. As., Afr., Am. etc.* vii. pl. 3 (1818–36); *Cab. & Heine, Mus. Hein.* Th. iv. p. 176 (1863).

Trogon virginalis, *Cab. & Heine, Mus. Hein.* Th. iv. p. 173 (1863); *Berl. & Tacz. P. Z. S.* 1883, p. 572, 1884, p. 307.

Adult male. Resembles the adult male of *T. personatus*, but the head and tail-coverts are bronze-green like the back; the wing-coverts are white vermiculated somewhat coarsely with black, and the three outer pairs of tail-feathers have the middle of the basal part black, a wide bar at the extremity white, and the rest of the feathers transversely barred with black and white bars of equal width: bill yellow. Total length 10·3 inches, wing 5·3, tail 6·1, tarsus 0·6.

Immature males differ from the adult in a similar manner to that

described in the young of *T. personatus*; the three outer pairs of tail-feathers resemble those of the adult female, but in some specimens the outer web and the subterminal part of the inner are barred with black almost as in the adult male.

Adult female. Like the adult female of *T. personatus*, but the throat and cheeks are brownish; the vermiculations on the wing-coverts are coarser, and the three outer pairs of tail-feathers have each a wide white terminal bar, separated by a narrow black bar from the rest of the feather, of which the central part is black, shading into white freckled with black towards the margins. Total length 10·4 inches, wing 5·1, tail 6, tarsus 0·6.

Hab. Venezuela, Colombia, Ecuador, Peruvian Amazons, and Brazil.

a–c. ♂ ♀ ad. et imm. sk.	Bahia.	Gould Coll.
d. ♂ ad. sk.	Rio de Janeiro.	Eyton Coll. (Type of *Trogon eytoni*, Fraser.)
e. ♂ ad. sk.	Villa Maria, Brazil, Aug. (*Natterer*).	Salvin-Godman Coll.
f. ♂ ad. sk.	Ucayali, July (*Hauxwell*).	Gould Coll.
g. ♂ ad. sk.	Upper Ucayali, July.	E. Bartlett [C.].
h, i. ♂ ♀ ad. sk.	River Amazon.	Bates Coll.
k. ♂ ad. sk.	Yquitos, Upper Amazon, June (*Whitely*).	Salvin-Godman Coll.
l–n. ♂ ad. et imm. sk.	Pallatanga, Ecuador (*Fraser*).	Gould Coll.
o. ♂ imm. sk.	Pallatanga, Oct. (*Fraser*).	Salvin-Godman Coll.
p. ♀ ad. sk.	Gualaquiza (*Fraser*).	Gould Coll.
q. ♂ ad. sk.	Sarayacu (*Buckley*).	Salvin-Godman Coll.
r. ♂ ad. sk.	Lower Amazons (*Wallace*).	Salvin-Godman Coll.
s. ♂ ad. sk.	Bogota.	Sclater Coll.
t. ♂ ad. st.	Bogota.	Purchased.
u, v. ♂ ♀ ad. sk.	Santa Elena, U.S. Colombia, Sept. (*Salmon*).	Salvin-Godman Coll.
w. ♂ ad. sk.	Fusagasugá, May (*Wheeler*).	Salvin-Godman Coll.
x. ♂ ad. sk.(var.).	Medina, Llanos of R. Meta (*Wheeler*).	Salvin-Godman Coll.
y, z. ♂ ♀ ad. sk.	Concordia (*Salmon*).	Salvin-Godman Coll.
a'. ♂ ad. sk.	Concordia (*Salmon*).	Gould Coll.
b', c'. ♂ ♀ ad. sk.	Vicinity of Medellin (*Salmon*).	Salvin-Godman Coll.
d', e'. ♂ ♀ ad. sk.	Antioquia (*Salmon*).	Sclater Coll.
f', g'. ♂ ♀ ad. sk.	Caracas, Venezuela.	Gould Coll.
h'. ♀ ad. sk.	Caracas, Venezuela.	J. Dyson.
i', k'. ♂ ♀ ad. sk.	Venezuela (*Spence*).	Sclater Coll.
l'. ♂ imm. sk.	Caripe, Venezuela, June (*Goering*).	Salvin-Godman Coll.
m'–o'. ♂ ♀ ad. sk.	Trinidad.	Gould Coll.
p', q'. ♂ ad. sk.	Cayenne.	Gould Coll.

4. Trogon elegans.

Trogon elegans, *Gould, P. Z. S.* 1834, p. 26; *Swains. Class. B.* ii. p. 337 (1837); *Gould, Mon. Trog.* ed. i. pl. 3 [text] (1838); *Gray, Gen. B.* i. p. 69 (1845); *Gray, List Fissir. Brit. Mus.* p. 43 (1848); *Taylor, Ibis*, 1860, p. 117; *Gould, Mon. Trog.* ed. ii. pl. 9 [text] (1869); *Salvin, Ibis*, 1872, p. 322.

Trogonurus elegans, *Bonap. Consp. Vol. Zygod.* p. 14 (1854).
Trogon (Trogonurus) elegans, *Gray, Hand-l. B.* i. p. 82 (1870).
Trogon personatus, *Hartl.* (*nec Gould*) *Verz. Mus. Brem.* p. 12 (1844) [*fide Cab. & Heine, Mus. Hein.* Th. iv. p. 170 (1863)].
Calurus auriceps, *Hartl.* (*nec Gould*) *Verz. Mus. Brem.* p. 12 (1844) [*iid. l. c.*]

Adult male. Closely resembles the adult male of *T. collaris*, from which it differs in the following points:—the forehead is black with a slight bluish gloss; the black vermiculations on the white wing-coverts are finer; the black bars on the three outer pairs of tail-feathers are not so wide, giving these feathers the appearance of being white narrowly barred with black; the bill also is much stronger. Total length 12 inches, wing 5·5, tail 7·6, tarsus 0·6.

An *immature male* has the upper parts like the adult male, but the top of the head is brown tipped with bronze-green. The rest of the plumage resembles that of the adult female, except that the buff feathers of the upper breast are faintly barred with black, the red advances further up the belly; many of the wing-coverts have terminal buff or white blotches, and the basal half of the centre pair of tail-feathers is glossed with bronze.

Adult female. A ring of white feathers surrounds the eye and forms a patch edged with black on the ear-coverts; rest of the head, chest, back, rump, and upper tail-coverts brown, inclining to black on the lores, cheeks, and throat; a white pectoral zone separates the chest from the breast, which is brownish buff shading into white on the upper part of the belly, rest of the belly and under tail-coverts pinkish red; thighs greyish black; primaries blackish, margined on the outer web with white; secondaries blackish, their outer webs like the wing-coverts and scapulars buff, faintly vermiculated with dusky; centre pair of tail-feathers reddish brown with a terminal black bar; second and third pairs black, washed with reddish brown on the outer web; the three outer pairs somewhat like those of the female of *T. mexicanus*—the basal and central part of each feather is black, the extremity white, and the remainder white somewhat widely crossed with narrow black bars. Total length 11·5 inches, wing 5·3, tail 6·6, tarsus 0·5.

Hab. Guatemala, Nicaragua.

a. ♂ ad. sk.	Virgin Bay, Lake of Nicaragua (*Bridges*).	Salvin-Godman Coll.
b. ♂ ad. sk.	Chontales, Nicaragua (*Belt*).	Salvin-Godman Coll.
c–f. ♂ ♀ ad. sk.	El Volcan, Chinandega, April to July (*Richardson*).	Salvin-Godman Coll.
g. ♀ ad. sk.	Comayagua, Honduras (*Taylor*).	Sclater Coll.
h–n. ♂ ♀ ad. sk.	La Libertad, San Salvador, Feb. (*Richardson*).	Salvin-Godman Coll.
o–s. ♂ ♀ ad. sk.	Volcan de San Miguel, March, July (*Richardson*).	Salvin-Godman Coll.
t, u. ♂ imm.; ♀ ad. sk.	Guatemala.	Gould Coll.
v. ♂ ad. sk.	No loc.	Gould Coll. (Type of the species.)
w. ♂ ad. st.		Purchased.

5. Trogon ambiguus.

Trogon ambiguus, *Gould, P. Z. S.* 1835, p. 30; *id. Mon. Trog.* ed. i. pl. 4 (1838); *Gray, Gen. B.* i. p. 69 (1845); *Bonap. Consp. Gen. Av.* i. p. 149 (1850); *Gould, Mon. Trog.* ed. ii. pl. 8 (1858); *Lawrence, Mem. Boston Soc.* ii. p. 290 (1874); *Ridgw. Auk*, iv. p. 161 (1887); *id. P. U. S. Nat. Mus.* x. p. 147 (1887).
Trogon (Trogonurus) ambiguus, *Gray, Hand-l. B.* i. p. 82 (1869).
Trogonurus ambiguus, *Bp. Consp. Vol. Zyg.* p. 14 (1854).
Trogon mexicanus, *Baird* (*nec Swains.*), *U.S. Mex. Bound. Surv., Birds*, p. 5, pl. 2. figs. 1 [♂ ad.] & 2 [juv.] (1859); *id. B. N. Amer.* p. 69, Atl. pl. (1860).

Adult male. Resembles the adult male of *T. elegans*, but the upper parts are golden bronze with green reflexions, most pronounced on the rump and upper tail-coverts; the middle pair of tail-feathers are rich fiery crimson-bronze with dark green reflexions and wide black terminal bars, the second and third pairs repeat the same colour on the outer web, and the three outer pairs have black bases and wide white ends, separated by a more or less distinct black line from the remainder of the feather, which is white freckled with black: bill yellow. Total length 11·2 inches, wing 5·3, tail 6·6, tarsus 0·65.

The *immature males* differ from the adult in having the white pectoral zone extending on to the breast; the middle pair of tail-feathers rufous, at the extremity merely edged with black, the second and third pairs of feathers black, with the margin of the outer web glossed with bronze, while the three outer pairs have the basal and central portion of the feathers black, the margins white with narrow wide-set bars of black, and the extremities white.

In less mature specimens the greater part of the head, back, and chest are brown, and the breast and under tail-coverts a mixture of whitish brown and white tipped with dusky; the median wing-coverts, greater secondary-coverts, and scapulars are widely tipped with white or buff and edged with black.

In quite young the plumage of the upper parts and chest is brown, inclining to rufous on the rump; the white pectoral zone is distinctly marked, the breast and belly are buff-white tipped with brown, and the rest of the plumage is as above.

Adult female. Resembles the female of *T. elegans*, but the three outer pairs of tail-feathers resemble those of the adult male of her own species; but the black freckling is coarser and forms a few irregular bars immediately behind the black line which bounds the white extremity: bill yellow. Total length 11·2 inches, wing 5·2, tail 6·5, tarsus 0·65.

The *young female* resembles the quite young male described above, but has the middle tail-feathers uniform rufous-brown, not edged with black at the extremity, and a few pink feathers round the crissum.

Hab. Mexico.

a, *b*. ♂ ♀ ad. sk.	Mexico (*Floresi*).	Gould Coll.
c. ♂ imm. sk.	Mexico (*Richardson*).	Salvin-Godman Coll.
d. ♀ imm. sk.	W. Mexico (*Bartlett*).	Sclater Coll.

e–g. ♂ ♀ ad. sk.	Ysleta, Sonora, May (*Lloyd*).	Salvin-Godman Coll.
h. ♀ ad. sk.	Sierra de Alamos, Sonora, May (*Lloyd*).	Salvin-Godman Coll.
i–l. ♂ ♀ ad. et imm. sk.	Tres Marias Is., W. Mexico, Feb., April (*Forrer*).	Salvin-Godman Coll.
m, n. ♂ imm. et ♀ ad. sk.	Presidio de Mazatlan, Jan., Oct. (*Forrer*).	Salvin-Godman Coll.
o. ♀ ad. sk.	Tepic, May (*Richardson*).	Salvin-Godman Coll.
p–t. ♂ ♀ ad. et imm. sk.	Santiago, Tepic, May, June (*Richardson*).	Salvin-Godman Coll.
u, v. ♂ juv. et ♀ ad. sk.	Sierra Madre de Jalisco, June (*Richardson*).	Salvin-Godman Coll.
w. ♂ ad. sk.	San Blas, Jalisco.	Gould Coll.
x. ♀ ad. sk.	San Blas, April (*Richardson*).	Salvin-Godman Coll.
y, z. ♂ ad. sk.	Zapotlan, Jalisco, April, Dec. (*Lloyd & Richardson*).	Salvin-Godman Coll.
a′, b′. ♂ ad. et imm. sk.	Volcan de Colima, Dec., Jan. (*Richardson*).	Salvin-Godman Coll.
c′. ♂ ad. sk.	Beltran, April (*Lloyd*).	Salvin-Godman Coll.
d′, e′. ♂ ♀ ad. sk.	Bolaños, March, July (*Richardson*).	Salvin-Godman Coll.
f′, g′. ♂ ♀ ad. sk.	Sierra de Nayarit, June, July (*Richardson*).	Salvin-Godman Coll.
h′, i′. ♂ ad. et ♀ imm. sk.	Amula, Guerrero, Aug. (*Smith*).	Salvin-Godman Coll.
k′–m′. ♂ imm., ♀ ad. et imm. sk.	Omilteme, Guerrero, July, Aug. (*Smith*).	Salvin-Godman Coll.
n′. ♂ ad. sk.	Oaxaca (*Fenochio*).	Salvin-Godman Coll.
o′. ♂ ad. sk.	Tuparate (*Verdey*).	Sclater Coll.
p′. ♂ juv. sk.	La Lana, April (*Sallé*).	Sclater Coll.
q′. ♂ ad. sk.	Coajimalpa (Tacubaya), Valley of Mexico, April (*Ferrari-Perez*).	Salvin-Godman Coll.
r′. ♂ ad. sk.	Chachapa, Puebla, July (*Ferrari-Perez*).	Salvin-Godman Coll.
s′–w′. ♂ ad. et imm.; ♀ ad. sk.	Sierra de Valparaiso, Zacatec, July, Aug. (*Richardson*).	Salvin-Godman Coll.
x′. ♂ ad. sk.	Sierra de San Luis Potosi, July (*Richardson*).	Salvin-Godman Coll.
y′–b′. ♂ ♀ ad. et ♂ imm. sk.	Nuevo Leon, May, June (*Armstrong*).	Salvin-Godman Coll.
c′–e′. ♀ ad. et imm. sk.	Tamaulipas (*Richardson*).	Salvin-Godman Coll.
f′–l′. ♂ ad. et imm.; ♀ ad. sk.	Sierra Madre, above Ciudad Victoria, Tamaulipas, April, May (*Richardson*).	Salvin-Godman Coll.
m′. ♂ ad. sk.	Soto la Marina, Tamaulipas, April (*Richardson*).	Salvin-Godman Coll.
n′–x′. ♂ ♀ ad. et imm. sk.	Tampico, Feb., March, June (*Richardson*).	Salvin-Godman Coll.
y′. ♀ ad. st.	[S. America.]	Purchased.

6. Trogon puella.

Trogon puella, *Gould, P. Z. S.* 1845, p. 18; *Gray, Gen. B.* p. 70 (1845); *Bonap. Consp. Gen. Av.* i. p. 149 (1850); *Sclat. P. Z. S.* 1856, p. 286; *Gould, Mon. Trog.* ed. ii. pl. 11 [text] (1858); *Sclat.*

P. Z. S. 1859, pp. 367, 387; *Sclat. & Salv. Ibis*, 1859, pp. 132, 216, 1860, p. 41; *Sclat. Cat. Am. B.* p. 276 (1862); *Cab. J. f. O.* 1862, p. 173; *Garrod, P. Z. S.* 1873, pp. 464, 631, 1876, p. 511; *Boucard, P. Z. S.* 1878, p. 48, 1883, p. 454.

Trogonurus puella, *Bonap. Consp. Vol. Zyg.* p. 14 (1854).

Trogon (Trogonurus) puella, *Gray, Hand-l. B.* i. p. 82 (1869).

Trogon xalapensis, *Du Bus, Esquiss. Orn.* pl. 2 [text] (1845); *Lafr. Rev. Z.* p. 180 (1847); *Bonap. Consp. Gen. Av.* i. p. 150 (1850).

Trogonurus xalapensis, *Bonap. Consp. Vol. Zyd.* p. 14 (1854).

Trogon luciani, *Less. ex Bonap.* 1837; *Bonap. Compt. Rend.* xlii. p. 955, note 1 (1856).

Adult male. Lores, superciliaries, ear-coverts, cheeks, and throat black; rest of head, chest, back, rump, and upper tail-coverts green glossed with golden bronze; a white pectoral zone below the chest; rest of breast, belly, and under tail-coverts blood-red; wings black; bases of inner primaries and secondaries white; outer webs of the primaries margined with white, and those of the secondaries finely vermiculated with white; wing-coverts finely vermiculated with white, forming wide-set but distinct wavy bars on the least coverts; middle pair of tail-feathers bronze-green with a black terminal band, the second and third pairs are the same but with the inner web black; the three outer pairs are black, narrowly barred with white except on the basal and middle part, and the terminal white bar is not, or scarcely, wider than the preceding. Total length 10·7 inches, wing 5·5, tail 6, tarsus 0·6.

The *immature male* differs from the adult in having the three outer pairs of tail-feathers either like those of the adult female but more coarsely marked, or black barred with white, the white bars being much wider, nearly as wide as the black, and becoming more broken and less regular towards the end, which is widely tipped with white. In this stage the present species closely resembles the adult male of *T. collaris*, but may be at once distinguished by the wing-coverts being *black* vermiculated with white, while in *T. collaris* the exact reverse obtains.

In less mature specimens the feathers of the white pectoral zone are barred with black, the outer webs of the secondaries and the secondary-coverts are mottled and tipped with rufous-buff, and the under tail-coverts are mixed with the same colour.

Adult female. Differs from the adult female of *T. collaris* in having no white ring of feathers round the eye, and the white terminal bars of the three outer pairs of tail-feathers narrower. Total length 10·8 inches, wing 5·5, tail 6·1, tarsus 0·6.

The *immature female* differs only from the adult in having the ends of the outer secondaries and secondary-coverts tipped with buff, the under tail-coverts rufous-buff, and the white ends of the three outer pairs of tail-feathers wider and, as in all young Trogons, more pointed.

Hab. Ranging from Mexico to Chiriqui.

a. ♂ ad. st.	Mexico.		Purchased.
b. ♂ imm. sk.	Chimalapa, Tehuantepec, Mexico, March (*Richardson*).		Salvin-Godman Coll.

c, *d*. ♂ ad. et imm. sk.	Vega del Casadero, Vera Cruz, Dec. (*Trujillo*).	Salvin-Godman Coll.
e. ♀ imm. sk.	Cofre de Perote, July (*Trujillo*)	Salvin-Godman Coll.
f, *g*. ♂ ad. et imm. sk.	Atoyac, Vera Cruz, April (*Smith*).	Salvin-Godman Coll.
h. ♂ imm. sk.	Coatepec, Nov. (*Trujillo*).	Salvin-Godman Coll.
i. ♂ ad. sk.	Misantla, March (*Godman*).	Salvin-Godman Coll.
k–*p*. ♂ ♀ ad. et imm. sk.	Jalapa, March, May.	Salvin-Godmaa Coll.
q. ♂ ad. sk.	Yucatan (*Gaumer*).	Salvin-Godman Coll.
r–*t*. ♂ ♀ ad. sk.	W. District, British Honduras, Jan. (*Blancaneaux*).	Salvin-Godman Coll.
u, *v*. ♂ ad. et imm. sk.	Coban, Vera Paz, Guatemala, Nov. (*Salvin*).	Salvin-Godman Coll.
w–*y*. ♂ ♀ ad. sk.	Retalhuleu, Guatemala, July (*Richardson*).	Salvin-Godman Coll.
z, *a'*. ♂ ♀ ad. sk.	Pie de la Cuesta, San Marcos, Guatemala, Nov. (*Richardson*).	Salvin-Godman Coll.
b'. ♀ ad. sk.	Santa Maria, near Quezaltenango, Aug. (*Richardson*).	Salvin-Godman Coll.
c'–*e'*. ♂ ad. et imm. sk.	Choctum, Jan. (*Salvin*).	Salvin-Godman Coll.
f'. ♀ nearly ad. sk.	Choctum, Jan. (*Salvin*).	Sclater Coll.
g', *h'*. ♂ ♀ imm. sk.	Toleman (*Salvin*).	Salvin-Godman Coll.
i', *j'*. ♂ ♀ ad. sk.	Toleman, Dec. (*Richardson*).	Salvin-Godman Coll.
k'. ♂ ad. sk.	Volcan de Fuego, Feb. (*Salvin*).	Salvin-Godman Coll.
l'–*n'*. ♂ ♀ ad. et imm. sk.	Dueñas (*Salvin*).	Salvin-Godman Coll.
o'. ♂ ad. sk.	Escuintla.	Salvin-Godman Coll. (Type of the species.)
p'. ♂ ad. sk.	Yaxcamnal (*Salvin*).	Salvin-Godman Coll.
q'. ♂ imm. sk.	Medio Monte, Nov. (*Salvin*).	Salvin-Godman Coll.
r'. ♂ ad. sk.	Alotenango, Feb. (*Salvin*).	Salvin-Godman Coll.
s'–*w'*. ♂ ♀ ad. et imm. sk.	Guatemala.	
x'. ♂ ad. sk.	Chiriquyu, Guatemala, Jan. (*Salvin*).	Gould Coll.
y'. ♂ ad. sk.	San Mateo, Costa Rica, April (*Cooper*).	Salvin-Godman Coll.
z'. ♀ ad. sk.	Dota, July (*Carmiol*).	Salvin-Godman Coll.
a''. ♂ imm. sk.	Angostura, Jan. (*Carmiol*).	Salvin-Godman Coll.
b''. ♀ ad. sk.	Turrialba (*Arcé*).	Salvin-Godman Coll.
c''. ♂ ad. sk.	Chiriqui (*Arcé*).	Salvin-Godman Coll.
d''–*g''*. Skeletons.	Alotenango.	Salvin-Godman Coll.
h'', *i''*. Skeletons.		Salvin-Godman Coll.

7. Trogon auranteiventris.

Trogon auranteiventris, *Gould*, *P. Z. S.* 1856, p. 107 ; *Sclater*, *P. Z. S.* 1856, pp. 139, 286 ; *Gould*, *Mon. Trog.* ed. ii. pl. 12 [text] (1858) ; *Lawr. Ann. Lyc. New York*, vii. p. 290 (1861) ; *Salvin*, *Ibis*, 1866, p. 194.

Trogon (Trogonurus) auranteiventris, *Gray*, *Hand-l. B.* i. p. 83 (1869).

Pothinus aurantiiventer, *Cab. & Heine*, *Mus. Hein.* Th. iv. p. 182 (1863).

Trogon sallæi, *Bonap. Compt. Rend.* xlii. p. 955 (1856).

Pothinus sallæi, *Cab. & Heine*, *Mus. Hein.* Th. iv. p. 183 (1863).

Adult male. Differs from the adult male of *T. puella* in having the breast, belly, and under tail-coverts orange instead of blood-red.

An adult male from Barranca, Costa Rica, has the breast and underparts orange-red, exactly intermediate in colour between *T. puella* and *T. auranteiventris*.

Adult female. Differs from the adult female of *T. puella* only in having the breast, belly, and under tail-coverts orange.

The *young* differ from the adults in the same way as the young of *T. puella*.

Hab. Ranging from Guatemala to Veragua.

It is very doubtful if this species is really distinct from *T. puella* or merely a colour-variety.

a. ♀ imm. sk.	Choctum, Vera Paz, Guatemala, Jan. (*Salvin*).	Salvin-Godman Coll.
b. ♂ ad. sk.*	Barranca, Costa Rica, April (*Carmiol*).	Salvin-Godman Coll.
c. ♂ ad. sk.	Chiriqui (*Arcé*).	Salvin-Godman Coll.
d, e. ♂ ♀ ad. sk.	Chiriqui.	Gould Coll. (Types of the species.)
f–i. ♂ ♀ ad. et imm. sk.	Calovevora, Veragua (*Arcé*).	Salvin-Godman Coll.
k. ♀ near. ad. sk.	Santa Fé (*Arcé*).	Salvin-Godman Coll.
l, m. ♂ ♀ ad. sk.	Cordillera de Tolé (*Arcé*).	Salvin-Godman Coll.
n, o. ♂ ♀ ad. & nearly ad. sk.	Veragua (*Arcé*).	Sclater Coll.

8. Trogon atricollis.

A number of names have been given to specimens of this species from different parts of its wide range, which extends from Nicaragua to Rio Grande do Sul wherever there is forest. In comparing specimens from these two localities numerous differences at once present themselves: in specimens from Central America (*T. tenellus*) the middle pair of tail-feathers are green glossed with peacock-blue, the bars on the three outer pairs of tail-feathers are wider and less numerous, and the breast and underparts are yellow unmixed with orange; the specimens from South Brazil (*T. chrysochlorus*) are rather larger, the middle pair of their tail-feathers are green glossed with bronze, the bars on the three outer pairs of tail-feathers are narrower and more numerous, and the breast and underparts are orange-yellow; but these differences are more or less bridged over by specimens from Guiana (*T. atricollis*), U.S. Colombia, Ecuador, and other intermediate localities. The only characters which appear to be of any importance to distinguish Central-American from all South-American specimens are the colour of the middle pair of tail-feathers coupled with that of the breast and underparts, though it must be added that in a single specimen, labelled "Demerara, Gould Coll.," the centre pair of tail-feathers have a distinct inclination to the peacock-blue shade of *T. tenellus*, while the breast is orange-yellow as in other South-American specimens (*T. atricollis* and *T. chrysochlorus*). It is

* Intermediate between *T. auranteiventris* and *T. puella*.

impossible to distinguish between the two last-named, and *T. tenellus* can at most be considered as a race only of *T. atricollis*.

Race A (*Trogon atricollis*).

Yellow-bellied Green Cuckoo, *Edw. Gleanings N. H.* pl. 331 (1758)
Couroucou à queue rousse de Cayenne, *Daubent. Pl. Enl.* pl. 736.
Couroucou oranga, *Levaill. Hist. Couruc. et Tourac.* pt. iii. p. 14, pls. 7, 8, 15 (1806).
Couroucou aurora, *Levaill. l. c.* pl. 9, p. 22 (1806).
Trogon curucui, var. γ, *Gm. S. N.* i. p. 403 (1788); *Lath. Ind. Orn.* i. p. 199. 1, var. δ (1790).
Trogon rufus, *Gm. S. N.* i. p. 404 (1788); *Lath. Ind. Orn.* i. p. 200. 5 (1790); *Steph. Shaw's Gen. Zool.* ix. p. 9, pl. 3 (1815); *Gray, List Fissir. Brit. Mus.* p. 42 (1848).
Trogon atricollis, *Vieill. N. Dict. d'Hist. Nat.* viii. p. 318 (1817); *id. Gal. des Ois.* i. p. 17, pl. 31 (1825); *Less. Traité Orn.* p. 119 (1831); *Gould, Mon. Trog.* ed. i. pl. 8 [text] (1838); *Gray, Gen. B.* i. p. 69 (1845); *Cab. Schomb. Reis. Brit. Guian.* iii. p. 719 (1848); *Bonap. Consp. Gen. Av.* i. p. 148 (1850); *Burm. Syst. Uebers. Th. Bras.* ii. p. 279 (1856); *v. Pelz. Sitz. Ak. Wien*, xx. p. 507 (1856); *Pelz. Orn. Bras.* pp. 20, 403 (1868–71); *Finsch, P. Z. S.* 1870, p. 560; *Salvin, Ibis*, 1872, p. 321; *Sclat. & Salv. Nom. Av. Neotr.* p. 104 (1873); *iid. P. Z. S.* 1873, p. 293; *Gould, Mon. Trog.* ed. ii. pl. 14 [text] (1875); *Sclat. & Salv. P. Z. S.* 1879, p. 535; *Tacz. P. Z. S.* 1882, p. 43; *Salvin, Ibis*, 1886, p. 61; *Tacz. Orn. Pérou*, iii. p. 172 (1886).
Pothinus atricollis, *Cab. & Heine, Mus. Hein.* Th. iv. p. 180 (1863).
Trogon (Pothinus) atricollis, *Gray, Hand-l. B.* i. p. 83 (1869).
Trogon lepturus, *Swains. An. in Menag.* p. 331 (1837?); *id. Class. B.* ii. p. 337 (1837); *Gray, Gen. B.* i. p. 69 (1845).
Trogon meridionalis, *Deville et Des Murs, Rev. Zool.* p. 333 (1849); *Hartl. J. f. O.* 1857, p. 43.
Trogon sulphureus, *Des Murs in Casteln. Expéd., Zool. Ois.* p. 34 (1855).
Trogon chrysochloros, *Natterer, MS. Cat., v. Pelz. Sitz. Ak. Wien*, xx. pp. 497, 505 (1856); *id. Orn. Bras.* p. 20 (1868).
? Aganus devillei, *Cab. & Heine, Mus. Hein.* Th. iv. p. 191 (1863).
Trogon scalaris, *Licht. Mus. Berol.* [fide *Cab. & Heine, Mus. Hein.* Th. iv. p. 182 (1863)].

Race B (*Trogon tenellus*).

Trogon tenellus, *Cab. J. f. O.* 1862, p. 173; *Lawr. Ann. Lyc. N. Y.* viii. p. 3 (1867); *Salvin, Ibis*, 1872, p. 321; *Gould, Mon. Trog.* ed. ii. pl. 15 [text] (1875).
Trogon (Pothinus) tenellus, *Gray, Hand-l. B.* i. p. 83 (1869).
Trogon atricollis, *Sclat. & Salv. P. Z. S.* 1864, p. 364.
Trogon auranteiventris, *Lawr. Ann. Lyc. N. Y.* vii. p. 290 (1862).

Adult male. Lores, cheeks, and throat deep black; rest of head, chest, sides of the neck, back, and rump bronze-green, inclining to bluish on the upper tail-coverts; sometimes an indistinct white pectoral band; breast and rest of underparts bright yellow or orange-yellow; thighs black; primaries and secondaries black with white bases, the former with white margins to, and the latter with fine white vermiculations on, the outer webs: greater primary wing-

coverts black, rest of the coverts black, finely vermiculated with white; centre pair of tail-feathers green, glossed with peacock-blue or bronze; second and third pairs the same, with the inner webs black; three outer pairs with the middle of the basal part black, a wide bar at the extremity white, and the rest of the feathers transversely barred with black and white bars of equal width: bill horny yellow.

Total length 10·4 inches, wing 4·8, tail 6·0, tarsus ·6 (S. Brazil).
„ 9·9 „ „ 4·65, „ 5·65, „ ·55 (C. America).

A quite young male resembles mostly the adult female, but the back, rump, and upper tail-coverts are those of the adult male; the outer webs of the secondaries and the whole of the greater secondary-coverts are buff, coarsely vermiculated with black and tipped with paler buff; the lesser and median wing-coverts are black, with narrow wavy bars of buff, the breast-feathers are barred with dusky, and the middle of the belly and under tail-coverts are rufous-brown like the middle tail-feathers, which have no terminal black bar and are glossed with bronze on the upper half.

Adult female. Head, back, rump, upper tail-coverts, throat, and chest brown, inclining to rufous on the head; an indistinct white pectoral band separates the chest from the rest of the yellow underparts; primaries and secondaries black with white bases, the former with the outer web margined with white and the latter with the whole outer web brown, vermiculated with black; greater primary wing-coverts black, edged on the outer web with brown; rest of wing-coverts light brown, finely vermiculated with black; middle tail-feathers rufous-brown with a terminal black bar, second and third pairs the same, but with the inner web black, three outer pairs like those of the adult male, but the black bars are only half the width of the white and less regular: bill horny black, yellowish towards the end of the lower mandible.

Total length 10·2 inches, wing 4·7, tail 6·0, tarsus ·55 (S. Brazil).
„ 9·9 „ „ 4·55, „ 5·8, „ ·5 (C. America).

Race A (*Trogon atricollis*).

Hab. S. America, north of about the Tropic of Capricorn.

a, *b*. ♂ ad. sk.	Remedios, Antioquia (*Salmon*).	Salvin-Godman Coll.
c, *d*. ♂ ♀ ad. sk.	Bogota.	Gould Coll.
e. ♂ ad. sk.	Demerara.	Gould Coll.
f. ♂ ad. sk.	Demerara.	Salvin-Godman Coll.
g, *h*. ♂ ♀ ad. sk.	Bartica Grove, Oct., Nov. (*Whitely*).	Salvin-Godman Coll.
i, *j*. ♂ ad. et imm. sk.	Sarayacu, Ecuador, Feb. (*Buckley*).	Salvin-Godman Coll.
k. ♀ near. ad. sk.	Chamicuros, July.	E. Bartlett, Esq. [C.].
l. ♀ ad. sk.	Barra do Rio Negro (*Natterer*).	Salvin-Godman Coll.
m. ♂ ad. sk.	Borba, March (*Natterer*).	Salvin-Godman Coll.
n, *o*. ♂ imm. et ♀ ad. sk.	Ypanema, May, June (*Natterer*).	Sclater Coll.

p. ♂ imm. sk.	Novo Fribourgo, Rio de Janeiro (*Youds*).	Salvin-Godman Coll.
q, *r*. ♂ ad. sk.	Rio Grande do Sul (*Rogers*).	Salvin-Godman Coll.
s. ♂ ad. sk.	Brazil.	Salvin-Godman Coll.
t. ♂ ad. sk.	Brazil.	Sclater Coll.
u, *v*. ♂ ♀ ad. sk.	Brazil.	Gould Coll.
w. ♀ ad. sk.	No locality. (Abdomen and underparts nearly pure white.)	Gould Coll.

Race B (*Trogon tenellus*).

Hab. Ranging from Nicaragua to Panama.

x, *y*. ♂ ♀ ad. sk.	Chontales, Nicaragua (*Belt*).	Salvin-Godman Coll.
z, *a'*. ♂ ♀ ad. sk.	Costa Rica (*Carmiol*).	Sclater Coll.
b', *c'*. ♂ ad., ♀ nearly ad. sk.	Barranca, April (*Carmiol*).	Salvin-Godman Coll.
d'. ♂ ad. sk.	Angostura, Feb. (*Carmiol*).	Salvin-Godman Coll.
e', *f'*. ♂ ad. et imm. sk.	Bugaba, Chiriqui (*Arcé*).	Salvin-Godman Coll.
g'. ♂ juv. sk.	Cordillera de Tolé, Veragua (*Arcé*).	Salvin-Godman Coll.
h'. ♂ ad. sk.	Santiago (*Arcé*).	Salvin-Godman Coll.
i'. ♀ ad. sk.	Chitra (*Arcé*).	Salvin-Godman Coll.
k'. ♂ ad. sk.	Santa Fé (*Arcé*).	Salvin-Godman Coll.
l'. ♂ ad. sk.	Santa Fé (*Arcé*).	Gould Coll.
m'. ♂ ad. sk.	Calovevora (*Arcé*).	Salvin-Godman Coll.
n'. ♂ ad. sk.	Panama (*McLeannan*).	Salvin-Godman Coll.
o'. ♂ ad. sk.	Panama (*McLeannan*).	Sclater Coll.
p'. ♀ ad. sk.	Chepo, Panama, Nov. (*Arcé*).	Salvin-Godman Coll.

9. Trogon viridis.

Trogon Cayanensis viridis, *Briss. Orn.* iv. p. 168, pl. xvii. fig. 1 [♂ imm.] (1760).

Trogon Cayanensis viridis, ventre candido, *Briss. Orn.* iv. p. 170 (1760).

Trogon Cayanensis cinereus, *Briss. Orn.* iv. p. 165, pl. xvi. fig. 1 [♀] (1760).

Couroucou de Cayenne, *Daubent. Pl. Enl.* pl. 195 [♂].

Couroucou de la Guiane, *Daubent. Pl. Enl.* pl. 765 [♀].

Couroucou à ventre jaune, *Levaill. Hist. Couroc. et Touruc.* pt. iii. p. 8, pls. 3, 4 (1806).

Couroucou albane, *Levaill. l. c.* p. 10, pl. 5 (1806).

Trogon strigilatus, *Linn. Syst. Nat.* i. p. 167 [♀] (1766); *Steph. Shaw's Gen. Zool.* ix. p. 10 (1815).

Trogon viridis, *Linn. Syst. Nat.* i. p. 167 (1766); *Gm. S. N.* i. p. 404 (1788); *Lath. Ind. Orn.* i. p. 199 (1790); *Steph. Shaw's Gen. Zool.* ix. p. 11, pl. 4 (1815); *Vieill. Encycl. Méth.* iii. p. 1361 (1823); *Spix, Av. Bras.* i. p. 50 (1824); *Less. Traité Orn.* p. 119 (1831); *Gray, Gen. B.* i. p. 69 (1845); *id. List Fissir. Brit. Mus.* p. 42 (1848); *Bonap. Consp. Gen. Av.* i. p. 148 (1850); *Burm. Syst. Uebers. Th. Bras.* ii. p. 277 (1856); *v. Pelz. Syst. Ak. Wien*, xx. p. 505 (1856); *Selat. Cat. Am. B.* p. 275 (1862); *Taylor, Ibis*, 1864, p. 88; *Gould, Mon. Trog.* ed. ii. pl. 21 [text] (1869); *v. Pelz. Orn. Bras.* pp. 20, 403 (1868–71); *id. Ibis*, 1873, p. 19; *Sclat. & Salv. P. Z. S.* 1873, p. 293; *Tacz. P. Z. S.* 1882, p. 43; *Salvin, Ibis*, 1886, p. 61; *Tacz. Orn. Pérou*, iii. p. 170 (1886).

Aganus viridis, *Cab. & Heine, Mus. Hein.* Th. iv. p. 196 (1863).
Trogon (Aganus) viridis, *Gray, Hand-l. B.* i. p. 81 (1869).
Trogon leverianus, *Shaw, Mus. Lever.* p. 175 (1792); *Vieill. N. Dict. d'Hist. Nat.* viii. p. 316 (1827); *Gray, Gen. B.* i. p. 70 (1845); *v. Pelz. Orn. Bras.* p. 20 (1868).
Trogon violaceus, *Spix* (*nec Gmel.*), *Av. Bras.* i. p. 50 (1824); *Wied, Beitr. Naturgesch. Bras.* iv. p. 297 (1832).
Trogon albiventer, *Cuv. Règ. An.* i. p. 459 (1829); *Bonap. Consp. Gen. Av.* i. p. 148 (1850).
Trogon melanopterus, *Swains. Anim. in Menag.* pt. iii. p. 332 (1837?); *id. Class. B.* ii. p. 337 (1837); *Gould, Mon. Trog.* ed. i. pls. 10, 11 [text] (1838).
Aganus venustus, *Cab. & Heine, Mus. Hein.* Th. iv. p. 194 (1863).
Trogon cyanurus, *Hartl. MS.*; *Finsch, P. Z. S.* 1870, p. 559.

Adult male. Lores, cheeks, and throat black; rest of head, nape, chest, and upper breast shining purple; back and least wing-coverts golden bluish green with purple reflexions and shading into peacock-blue or purple on the rump and upper tail-coverts; rest of breast and underparts fine orange-yellow; thighs and wings black, the quills with white bases and the basal half of the outer web of the primaries margined with white; centre pair of tail-feathers bronze-green with blue reflexions and a black terminal band, second and third pairs the same, with the inner web black, three outer pairs black with the apical part white, meeting the black obliquely and extending nearer the base on the outer web: bill whitish. Total length 11 inches, wing 6, tail 6·2, tarsus 0·6.

Immature males resemble the adult females, but have the back, rump, and upper tail-coverts like those of the adult male; the wing-coverts and the secondaries are spotted on the outer web with white or pale buff, and the centre pair of tail-feathers are slightly glossed with greenish bronze.

Adult female. Head, chest, back, rump, and upper tail-coverts dark grey; rest of underparts orange-yellow; thighs black; wings black; quills with white bases, primaries with the basal half of the outer web margined with white and the apical part spotted; secondaries, greater secondary-coverts, median and lesser coverts widely barred with narrow wavy white lines; three centre pairs of tail-feathers black, three outer pairs black with white tips, and toothed with white on the outer web, the first few extending across the shaft into the black of the inner web: bill horny black. Total length 11 inches, wing 5·9, tail 6·3, tarsus 0·6.

Hab. South America north of about the Tropic of Capricorn.

a. ♂ ad. sk.	S. America.	Gould Coll.
b, c. ♂ ♀ ad. sk.	Bogota, U.S.C.	Purchased.
d, e. ♂ ad. sk.	Bogota.	Salvin-Godman & Sclater Colls.
f. ♂ imm. sk.	Medina, Llanos of R. Meta (*Wheeler*).	Salvin-Godman Coll.
g–i. ♂ ♀ ad. sk.	Sarayacu, Ecuador (*Buckley*).	Salvin-Godman Coll.
j. ♂ ad. sk.	Napo.	Gould Coll.
k. ♂ ad. sk.	Pilar, Venezuela, March (*Goering*).	Salvin-Godman Coll.
l. ♂ ad. sk.	Trinidad.	Gould Coll.

m, *n*. ♂ ad. sk.	Demerara.	Gould Coll.
o. ♀ ad. st.	Demerara.	Purchased.
p, *q*. ♂ ♀ ad. sk.	Bartica Grove, British Guiana, Sept., Oct. (*Whitely*).	Salvin-Godman Coll.
r. ♂ ad. sk.	Attápurow River, British Guiana, Jan. (*Whitely*).	Salvin-Godman Coll.
s. ♀ ad. sk.	Camacusa, British Guiana, March (*Whitely*).	Salvin-Godman Coll.
t. ♂ imm. sk.	Oyapok, French Guiana (*Verdey*)..	Sclater Coll.
u–*x*. ♂ ♀ ad. sk.	Lower Amazons (*Wallace*).	Salvin-Godman Coll.
y, *z*. ♂ ♀ ad. sk.	River Amazon.	Bates Coll.
a', *b'*. ♂ ♀ ad. sk.	Yquitos, Upper Amazons, June (*Whitely*).	Salvin-Godman Coll.
c'. ♂ ad. st.	Brazil.	Purchased.
d'–*h'*. ♂ ♀ ad. et imm. sk.	Brazil.	Salvin-Godman & Gould Colls.
i', *k'*. ♂ ad. sk.	Pernambuco (*Craven*).	Sclater Coll.
l'–*n'*. ♂ ♀ ad. sk.	Bahia (*Wucherer*).	Salvin-Godman, Sclater, & Gould Colls.
o'. ♂ ad. sk.	Mato Grosso, Oct. (*Natterer*).	Salvin-Godman Coll.
p'. ♂ imm. sk.	São Paulo (*Joyner*).	Salvin-Godman Coll.
q'. ♂ ad. sk.	Novo Fribourgo, Province of Rio Janeiro (*Youds*).	Salvin-Godman Coll.
r'. Ad. skel.		Purchased.

10. Trogon chionurus.

Trogon viridis, *Sclat. & Salv. P. Z. S.* 1864, p. 364; *Lawr. Ann. Lyc. New York*, vii. p. 290 (1862).

Trogon chionurus, *Sclat. & Salv. P. Z. S.* 1870, p. 843; *Wyatt, Ibis*, 1871, p. 374; *Sclat. & Salv. Nomencl. Av. Neotr.* p. 304 (1873); *iid. P. Z. S.* 1879, pp. 535, 549.

Trogon eximius, *Lawr. Ann. Lyc. New York*, x. p. 11 (1874).

Adult male. Differs from the adult male of *T. viridis* only in having the outer pairs of tail-feathers white almost to the base, the fifth pair two-thirds and the fourth pair half white. Total length 11·1 inches, wing 5·8, tail 6·1, tarsus 0·55.

Adult female. Differs from the adult female of *T. viridis* in having wide white ends to the three outer pairs of tail-feathers. Total length 11·2 inches, wing 5·7, tail 5·8, tarsus 0·55.

In three females from Remedios, Antioquia, all apparently quite adult, the amount of white varies strikingly. In one the three outer pairs of tail-feathers are almost exactly similar to those described above in the adult male, in a second specimen the white is confined to the apical half, while in the third the tail is as described above. Possibly the white increases with each successive moult.

Hab. Ranging from Panama through Colombia to Ecuador.

a. ♂ ad. sk.	Veragua (*Arcé*).	Salvin-Godman Coll.
b, *c*. ♂ ♀ ad. sk.	Panama (*McLeannan*).	Salvin-Godman Coll. (Types of the species.)
d. ♂ ad. sk.	Panama.	Gould Coll.
e–*k*. ♂ ♀ ad. sk.	Remedios, Antioquia, U.S. Colombia (*Salmon*).	Salvin-Godman & Sclater Colls.

l. ♂ ad. sk.	Medellin (*Salmon*).		Gould Coll.
m. ♂ ad. sk.	Balzar Mountains, (*Illingworth*).	Ecuador	Salvin-Godman Coll.

11. Trogon bairdi.

Trogon bairdi, *Lawr. Ann. Lyc. New York*, ix. p. 119 (1868); *Salv. Ibis*, 1869, p. 316; *id. P. Z. S.* 1870 p. 202; *Scl. & Salv. Nomencl. Av. Neotr.* p. 104 (1873); *Gould, Mon. Trog.* ed. ii. pl. 23 [text] (1875).

Adult male. Differs from the adult male of *T. viridis* only in having the lower breast and rest of underparts scarlet, the three outer pairs of tail-feathers with more white and less black at the base, and the purple reflexions on the dark grey chest much fainter. Total length 11·2 inches, wing 5·6, tail 5·8, tarsus 0·55.

Adult female. Differs from the adult female of *T. viridis* only in having the lower breast and rest of underparts scarlet, the three outer pairs of tail-feathers barred at the apical ends across both webs with white, and the terminal white bars scarcely wider than the rest. Total length 11·1 inches, wing 5·8, tail 6, tarsus 0·55.

Hab. Costa Rica and Panama.

a–e. ♂ ♀ ad. sk.	Bugaba, Chiriqui (*Arcé*).		Salvin-Godman Coll.
f, g. ♂ ♀ ad. sk.	Bugaba, Chiriqui (*Arcé*).		Gould Coll.
h, i. ♂ ad. sk.	Bibaláz, Chiriqui (*Arcé*).		Gould Coll.
k. ♂ ad. sk.	Chiriqui (*Arcé*).		Sclater Coll.
l. ♂ ad. sk.	Chiriqui.		E. Arcé [C.].

12. Trogon citreolus.

Trogon citreolus, *Gould, P. Z. S.* 1835, p. 30; *id. Mon. Trog.* ed. i. pl. 13 [text] (1838); *Gray, Gen. B.* i. p. 69 (1845); *Bonap. Consp. Gen. Av.* i. p. 149 (1850); *Scl. & Salv. Ibis*, 1859, pp. 132, 219; *Scl. & Salv. Nomencl. Av. Neotr.* p. 104 (1873); *Lawrence, Mem. Boston Soc.* ii. p. 290 (1874).
Aganus citreolus, *Cab. & Heine, Mus. Hein.* Th. iv. p. 197 (1863).
Trogon (Aganus) citreolus, *Gray, Hand-l. B.* i. p. 82 (1869).
Trogon capistratum, *Less. Rev. Zool.* p. 136 (1842).
Trogon capistratus, *Gray, Gen. B.* iii. App. p. 4 (1849).
Trogonurus capistratus, *Bonap. Consp. Vol. Zyg.* p. 14 (1854).
Trogon lucidus, *Licht. Mus. Berol.* [fide *Cab. & Heine, Mus. Hein.* Th. iv. p. 197 (1863)].

Adult male. Head, nape, throat, and chest dark grey*; back bronze-green, shading into peacock-blue on the rump and upper

* Gould remarks, in the first edition of his Monograph of the Trogons, that the male specimen figured is an immature bird and that in fully adult specimens the *whole crown*, like the *neck*, *chest*, and rest of upper surface, is of a rich green. This, however, is not the case, for in a large series before me containing many fully adult males, the whole crown, nape, and chest are dark grey, the only exceptions being two specimens from Mazatlan, which have the occiput and hinder part of the crown green glossed with blue, in contrast to the greenish bronze of the back, and the chest slightly washed with green on the sides. One or two of the specimens from the Territory of Tepic and a male from Mexico (type of the species) are slightly washed with green on the occiput.

tail-coverts; a white pectoral zone separates the chest from the lemon-yellow breast and rest of underparts; thighs dark grey; wings black, quills with white bases, and primaries with the basal half of the outer webs margined with white; tail as in *T. bairdi*, but the centre pairs of tail-feathers are bronze-green. Total length 10·5 inches, wing 5·5, tail 5·7, tarsus ·6.

An *immature male* resembles the adult, but the belly is whitish yellow, and the centre pairs of tail-feathers are greyish black slightly glossed with bronze-green.

Adult female. Head, chest, back, and rest of upper parts dark grey; centre pair of tail-feathers greyish black with a black terminal band, second and third pairs black; rest of the plumage as in the adult male. Total length 10·4 inches, wing 5·6, tail 5·9, tarsus 0·6.

In an *immature female* the outer web of the secondaries is blotched or margined with pale buff, and the black basal part of the outer web of the three outer pairs of tail-feathers is more or less toothed with white.

Hab. Mexico.

a, b. ♂ ♀ ad. sk.	Mexico.	Gould Coll. (Types of the species.)
c. ♀ ad. sk.	Presidio de Mazatlan, Mexico, Jan. (*Forrer*).	Salvin-Godman Coll.
d. ♂ ad. sk.	Mazatlan, Nov. (*Forrer*).	Salvin-Godman Coll.
e. ♂ imm. sk.	Mazatlan (*Xantus*).	Salvin-Godman Coll.
f–h. ♂ ♀ ad. sk.	Mazatlan (*Grayson*).	Salvin-Godman Coll.
i, j, k. ♂ ♀ ad. sk.	Santiago, Terr. de Tepic, May (*Richardson*).	Salvin-Godman Coll.
l–q. ♂ ♀ ad. sk.	San Blas, Terr. de Tepic, April, May (*Richardson*).	Salvin-Godman Coll.
r. ♀ ad. sk.	Colima (*Lloyd*).	Salvin-Godman Coll.
s, t. ♂ ♀ ad. sk.	Culata (Manzanillo), Colima, June (*Lloyd*).	Salvin-Godman Coll.
u, v. ♂ ♀ ad. sk.	Acapulco, State of Guerrero, Sept. (*Smith*).	Salvin-Godman Coll.
w. ♀ imm. sk.	Rincon, State of Guerrero, Oct. (*Smith*).	Salvin-Godman Coll.
x–z. ♂ ♀ ad. sk.	Tehuantepec, Feb. (*Richardson*).	Salvin-Godman Coll.
a′–c′. ♂ ♀ ad. sk.	Tonola, Chiapas, Feb., Nov. (*Sumichrast*).	Salvin-Godman Coll.
d′, e′. ♂ ad. sk.	Chimalapa, Tehuantepec, March (*Richardson*).	Salvin-Godman Coll.

13. **Trogon melanocephalus.**

Trogon melanocephala, *Gould, Mon. Trog.* ed. i. pl. 12 (1838).

Trogon melanocephalus, *Gray, Gen. B.* i. p. 70 (1845); *id. List Fissir. Brit. Mus.* p. 42 (1848); *Bonap. Consp. Gen. Av.* i. p. 149 (1850); *Sclat. P. Z. S.* 1857, p. 327; *Gould, Mon. Trog.* ed. ii. pl. 27 [text] (1858); *Sclat. P. Z. S.* 1859, pp. 367, 387; *id. & Salv. Ibis*, 1859, p. 132; *Taylor, Ibis*, 1860, p. 117; *Sclat. Cat. Am. B.* p. 276 (1862); *Salvin, Ibis*, 1872, p. 322; *Boucard, P. Z. S.* 1883, p. 454; *Salvin, Ibis*, 1889, p. 371, 1890, p. 88.

Trogonurus melanocephalus, *Bonap. Consp. Vol. Zyg.* p. 14 (1854).
Trogon (Aganus) melanocephalus, *Gray, Hand-l. B.* i. p. 82 (1869).

Adult male. Head, nape, and chest blackish grey; back bluish green glossed with gold and shading gradually into purplish blue on the rump and upper tail-coverts; breast and rest of underparts orange-yellow; thighs and wings black, quills with white bases and the basal half of the outer web of the primaries margined with white; centre pair of tail-feathers bronze-green, with blue reflexions and a black terminal band; second and third pairs the same with the inner web black, three outer pairs black with the last inch white meeting the black nearly horizontally: bill whitish, darker towards the base. Total length 10·7 inches, wing 5·5, tail 5·5, tarsus 0·55.

Immature males differ from the adult in having the outer webs of the secondaries margined with whitish spots; the black of the outer web in the three outer pairs of tail-feathers is toothed with white, and the middle pairs of tail-feathers are black glossed with greenish bronze.

In a much younger specimen the wing-coverts and secondaries are spotted and edged on the outer web with buff.

Adult female. Head, upper parts, and chest dark grey; rest of underparts orange-yellow; wings and three outer pairs of tail-feathers as in the adult male; three middle pairs of tail-feathers blackish grey, with a black terminal band. Total length 10·4 inches, wing 5·5, tail 5·5, tarsus 0·6.

Less mature females have the outer web of the three outer pairs of tail-feathers toothed with white; otherwise they resemble the above.

Hab. Ranging from Southern Mexico to Costa Rica.

a, *b*. ♂ ♀ ad. sk.	Mexico (*D'Oca*).	Gould Coll.
c. ♂ ad. sk.	Tampico, Feb. (*Richardson*).	Salvin-Godman Coll.
d. ♀ ad. sk.	Vera Cruz, Feb. (*Richardson*).	Salvin-Godman Coll.
e. ♂ ad. sk.	Playa Vicente, Vera Cruz, Dec. (*Trujillo*).	Salvin-Godman Coll.
f. ♂ nr. ad. sk.	Misantla, Vera Cruz, Dec. (*Trujillo*).	Salvin-Godman Coll.
g. ♀ ad. sk.	Laguna Verde, Vera Cruz, Sept. (*Trujillo*).	Salvin-Godman Coll.
h–l. ♂ ♀ ad. sk.	Teapa, Tabasco, Feb., March (*Smith*).	Salvin-Godman Coll.
m. ♀ ad. sk.	Vera Paz, Guatemala (*Hague*).	Salvin-Godman Coll.
n. ♂ ad. sk.	Choctum, Vera Paz (*Salvin*).	Salvin-Godman Coll.
o. ♀ ad. sk.	Meco I., Yucatan, Nov. (*Gaumer*).	Salvin-Godman Coll.
p, *q*. ♂ ♀ ad. sk.	Yucatan, May (*Gaumer*).	Sclater Coll.
r, *s*. ♂ ♀ ad. sk.	Northern Yucatan (*Gaumer*).	Salvin-Godman Coll.
t. ♂ imm. sk.	Merida, Yucatan, May (*Schott*).	Salvin-Godman Coll.
u–a'. ♂ ♀ ad. sk.	Buctzotz, Yucatan, April (*Gaumer*).	Salvin-Godman Coll.
b'–f'. ♂ ♀ ad. sk.	Peto, Yucatan, April (*Gaumer*).	Salvin-Godman Coll.

g', *h'*. ♂ ♀ ad. sk.	Belize, British Honduras (*Blancaneaux*).	Salvin-Godman Coll.
i'. ♀ ad. sk.	San Felipe, Western British Honduras, April (*Blancaneaux*).	Salvin-Godman Coll.
k'. ♂ ad. sk.	Corosal, British Honduras (*Roe*).	Salvin-Godman Coll.
l', *m'*. ♂ nr. ad.; ♀ ad. sk.	San Antonio, British Honduras, Jan., April (*Blancaneaux*).	Salvin-Godman Coll.
n'–*s'*. ♂ ♀ ad. sk.	Cayo, British Honduras, Feb., March, April, July (*Blancaneaux*).	Salvin-Godman Coll.
t'. ♂ ad. sk.	Orange Walk, British Honduras, Dec. (*Gaumer*).	Salvin-Godman Coll.
u', *v'*. ♂ ad. et imm. sk.	Honduras.	Sclater & Gould Colls.
w'. ♀ ad. st.	Honduras.	Purchased.
x'. ♂ ad. sk.	Medina, Honduras (*Whitely*).	Salvin-Godman Coll.
y', *z'*. ♂ ♀ ad. sk.	San Pedro, Honduras (*Whitely*).	Sclater Coll.
a''. ♀ ad. sk.	La Union, San Salvador, March (*Salvin*).	Salvin-Godman Coll.
b''. ♂ ad. sk.	La Libertad, Feb. (*Richardson*).	Salvin-Godman Coll.
c''. ♂ ad. sk.	Volcan de San Miguel, April (*Richardson*).	Salvin-Godman Coll.
d''. ♂ imm. sk.	Nicaragua.	Gould Coll.
e''. ♂ ad. sk.	Virgin Bay, Nicaragua Lake.	Tweeddale Coll.
f''. ♂ ad. sk.	Chontales, Nicaragua (*Belt*).	Salvin-Godman Coll.
g''–*m''*. ♂ ad. et imm. sk.	El Volcan Chimandega, April, May (*Richardson*).	Salvin-Godman Coll.
n''. ♀ imm. sk.	Costa Rica (*Carmiol*).	Salvin-Godman Coll.
o'', *p''*. ♂ ♀ ad. st.	No loc.	Purchased.
q''. Skeleton.		

TROGON CALIGATUS, MERIDIONALIS, *and* RAMONIANUS.

To distinguish typical adult males of these three forms from one another is no doubt easy enough. *T. caligatus*, from Mexico and Guatemala, can be at once distinguished from the others by its entirely *black* head, blue nuchal collar, and finely vermiculated black and white wing-coverts; in both *T. meridionalis*, from British Guiana and Venezuela, and *T. ramonianus*, from Ecuador and the Upper Amazons, the whole head is *blue*, and in the former the wing-coverts resemble those of *T. caligatus* but the black predominates, while in the latter they are entirely black. From Guatemala and Panama we have some specimens (mostly *immature* males) in which the nuchal collar is considerably wider, and the blue extends over the back of the head, but the great majority from these countries are typical *T. caligatus*. Again, in specimens from Remedios in Antioquia, the head is nearly as blue as in typical *T. meridionalis*, and the birds must be considered as belonging to that race, while from other parts of the U. S. of Colombia, and Babahoyo in Ecuador, we find typical *T. caligatus*. The fact is, these two races completely intergrade, and it is almost impossible to draw a line between the two. *T. ramonianus* appears to be a

more distinct form, though it is only to be distinguished from typical *T. meridionalis* from Guiana by its entirely black wing-coverts. So far as our specimens show these two do not intergrade, but their immature males are very similar and both have the wing-coverts somewhat vermiculated with white as in the adult of *T. meridionalis*; and it is probable that when specimens of *T. ramonianus* are obtained from the Lower Amazons, which more nearly approach the range of the last-named, they will be found to intergrade. It might perhaps be best to consider the three forms as merely local races of one species, *T. caligatus*.

14. Trogon caligatus.

Trogon caligatus, *Gould, Mon. Trog.* ed. i. pl. 7 (1838); *Gray, Gen. B.* i. p. 70 (1845); *Gray, List B. Brit. Mus.* pt. ii. sect. i. Fissirostres, i. p. 43 (1848); *Sclat. P. Z. S.* 1856, p. 286; *v. Pelz. Sitz. Ak. Wien*, xx. p. 495 (1856); *Gould, Mon. Trog.* ed. ii. pl. 16 [text] (1858); *Sclat. P. Z. S.* 1860, p. 284; *Lawr. Ann. Lyc. New York*, vii. p. 290 (1861); *Tacz. P. Z. S.* 1877, p. 328; *Salv. & Godm. Ibis*, 1880, p. 174; *Boucard, P. Z. S.* 1883, p. 454; *Tacz. Orn. Pérou*, iii. p. 173 (1886).
Trogon (Aganus) caligatus, *Gray, Hand-l. B.* i. p. 81 (1869).
Trogon concinnus, *Lawr. Ann. Lyc. New York*, vii. p. 463 (1862).
Aganus lepidus, *Cab. & Heine, Mus. Hein.* Th. iv. p. 187 (1863).
Aganus braccatus, *Cab. & Heine, Mus. Hein.* Th. iv. p. 184 (1863).

Adult male. Head and throat black; nuchal collar and chest peacock-blue shaded with purple; back and upper parts bronze-green, inclining to bluish on the upper back, rump, and upper tail-coverts; a more or less distinct white pectoral band; breast and rest of underparts orange-yellow; sides grey; thighs black: primaries and secondaries black with white bases, the former with white margins to, and the latter with white vermiculations on, the outer webs; greater primary-coverts black, rest of the coverts finely vermiculated with black and white; middle pair of tail-feathers green glossed with blue and tipped with black, second and third pairs the same with the inner webs black, three outer pairs each with the basal and central part black, a wide white terminal band, and the rest regularly barred with black and white, the latter narrower: bill horny yellowish black. Total length 9·7 inches, wing 4·8, tail 4·7, tarsus 0·55.

In a nearly mature male the nuchal collar is less bright and more diffuse, extending somewhat over the back of the head, some of the greater coverts and inner secondaries are coarsely and irregularly barred with white, the three centre pairs of tail-feathers are black slightly glossed with green, and in the three outer pairs the black and white transverse markings are less regular.

In a younger bird the back of the head and an irregular band across the upper chest are bluish green, and the throat and remainder of chest are blackish grey.

In a still younger bird no nuchal collar is developed, and the chest and wings are nearly like those of the adult female.

Adult female. Head, throat, chest, and upper parts blackish grey;

breast and rest of underparts orange-yellow; wings black; primaries margined with white; secondaries and coverts with narrow wide-set white bars; centre pair of tail-feathers blackish grey with a black terminal band, second and third pairs black, three outer pairs have almost the entire inner web and the basal part of the outer black, the rest of each feather is white regularly barred with black except at the end: "irides red: cere yellow; legs and feet blue" (*Fraser*). Total length 9·8 inches, wing 5, tail 4·9, tarsus 0·55.

Immature female is similar to the above, but the wing-coverts and secondaries have coarse irregular bars and markings; and the black terminal bar on the middle tail-feathers is wanting.

Hab. Ranging from Southern Mexico through Panama and the U. S. of Colombia to Ecuador.

a–d. ♂ ♀ ad. et imm. st.	Mexico.	Purchased.
e. ♂ ad. sk.	Mexico.	Gould Coll.
f. ♂ ad. sk.	Vera Cruz (*Boucard*).	Tweeddale Coll.
g, h. ♂ ♀ ad. sk.	Vera Cruz (*Boucard*).	Salvin-Godman Coll.
i. ♂ ad. sk.	Colipa, March (*Godman*).	Salvin-Godman Coll.
k. ♂ ad. sk.	Tehuantepec (*Richardson*).	Salvin-Godman Coll.
l–o. ♂ ♀ ad. sk.	Chimalapa, Tehuantepec, March (*Richardson*).	Salvin-Godman Coll.
p. ♂ ad. sk.	Playa Vicente, Vera Cruz, Dec. (*Trujillo*).	Salvin-Godman Coll.
q–s. ♂ ♀ ad. sk.	Atoyac, Vera Cruz, May (*Smith*).	Salvin-Godman Coll.
t. ♀ ad. sk.	Misantla, Vera Cruz, Dec. (*Trujillo*).	Salvin-Godman Coll.
u. ♂ ad. sk.	Los Cerrillos, June (*Trujillo*).	Salvin-Godman Coll.
v–y. ♂ ♀ ad. sk.	Teapa, Jan., Feb. (*Smith*).	Salvin-Godman Coll.
z. ♂ ad. sk.	Tampico, June (*Richardson*).	Salvin-Godman Coll.
a′. ♂ ad. sk.	Yucatan, May (*Gaumer*).	Sclater Coll.
b′, c′. ♀ ad. sk.	Peto, Yucatan, April (*Gaumer*).	Salvin-Godman Coll.
d′–f′. ♂ imm., ♀ ad. sk.	Guatemala.	Sclater&Gould Colls.
g′–k′. ♂ ad. sk.	Retalhuleu, Guatemala, Jan., July (*Richardson*).	Salvin-Godman Coll.
l′. ♂ ad. sk.	Choctum, Vera Paz, Jan. (*Salvin*).	Salvin-Godman Coll.
m′. ♀ ad. sk.	Chisec, Vera Paz (*Salvin*).	Salvin-Godman Coll.
n′. ♂ imm. sk.	Teleman, Vera Paz (*Salvin*).	Salvin-Godman Coll.
o′. ♂ ad. sk.	Toliman, Dec. (*Richardson*).	Salvin-Godman Coll.
p′. ♂ imm. sk.	Volcan de Fuego, Aug. (*Salvin*).	Gould Coll.
q′–s′. ♂ ♀ ad. sk.	Dueñas (*Salvin*).	Salvin-Godman Coll.
t′. ♀ ad. sk.	Dueñas, Nov. (*Salvin*).	Tweeddale Coll.
u′, v′. ♂ imm. sk.	Sources Rio de la Pasion, Feb. (*Salvin*).	Salvin-Godman Coll.
w′. ♂ ad. sk.	Alotenango, Nov. (*Salvin*).	Tweeddale Coll.
x′. ♂ ad. sk.	Yaxcamnal (*Salvin*).	Salvin-Godman Coll.
y′, z′. ♂ ad. sk.	Volcan de San Miguel, March (*Richardson*).	Salvin-Godman Coll.
a″–g″. ♂ ♀ ad. et imm. sk.	La Libertad, Feb., March (*Richardson*).	Salvin-Godman Coll.

h'', *i''*. ♂ ♀ ad. sk.	Chontales, Nicaragua (*Belt*).	Salvin-Godman Coll.
k''–*m''*. ♂ ad. sk.	El Volcan, Chinandega, April (*Richardson*).	Salvin-Godman Coll.
n'', *o''*. ♂ ♀ ad. sk.	Angostura, Costa Rica, Jan. (*Carmiol*).	Salvin-Godman Coll.
p''. ♂ ad. sk.	Santa Fé, Veragua (*Arcé*).	Salvin-Godman Coll.
q''. ♀ ad. sk.	Calovevora, Veragua (*Arcé*).	Salvin-Godman Coll.
r''. ♀ ad. sk.	Castillo, Veragua (*Arcé*).	Salvin-Godman Coll.
s'', *t''*. ♂ ad. sk.	Panama.	Gould Coll.
u''. ♂ ad. sk.	Panama.	Tweeddale Coll.
v''–*x''*. ♂ ad. et imm. sk.	Panama (*McLeannan*).	Salvin-Godman & Sclater Colls.
y''. ♂ ad. sk.	Paraiso Station, Panama (*Hughes*).	Salvin-Godman Coll.
z''. ♂ ad. sk.	San Pablo Station, Panama, March (*Salvin*).	Salvin-Godman Coll.
*a*³. ♀ ad. sk.	U. S. Colombia.	Gould Coll.
*b*³, *c*³. ♂ ♀ ad. sk.	Minca, U.S.C., March (*Simons*).	Salvin-Godman Coll.
*d*³. ♂ ad. sk.	Santa Fé de Bogota.	Gould Coll.
*e*³. ♂ ad. sk.	Popayan.	Gould Coll.
*f*³, *g*³. ♂ ♀ ad. sk.	Babahoyo, Ecuador (*Frazer*).	Gould Coll.
*h*³, *i*³. ♂ ad. sk.	Balzar Mts., Ecuador (*Illingworth*).	Salvin-Godman Coll.
*k*³, *l*³. Skeleton.	Medio Monte.	Salvin-Godman Coll.
*m*³, *n*³. Skeleton.	Alotenango.	Salvin-Godman Coll.
*o*³. Skeleton.		Salvin-Godman Coll.

15. Trogon meridionalis.

? Trogon violaceus, *Gm. S. N.* i. p. 404 (1788); *Steph. Shaw's Gen. Zool.* ix. p. 8 (1815).
Aganus violaceus, *Cab. & Heine, Mus. Hein.* Th. iv. p. 190 (1863).
Trogon meridionalis, *Swains. An. in Menag.* p. 332 (1837 ?); *id. Class. B.* p. 337 (1837); *Gould, Mon. Trog.* ed. i. pl. 9 [text] (1838); *Cab. Schomb. Brit. Guian.* iii. p. 719 (1848); *Scl. Cat. Am. B.* p. 276 (1862); *v. Pelz. Orn. Bras.* pp. 20, 403 (1868–71); *Gould, Mon. Trog.* ed. ii. pl. 17 [text] (1875); *Sclat. & Salv. P. Z. S.* 1879, p. 535; *Salvin, Ibis*, 1886, p. 61.
? Trogon sulphureus, *Spix, Av. Bras.* i. p. 48, pl. xxxviii. (1824); *Gray, Gen. B.* i. p. 69 (1845); *Gray, List Fissir. Brit. Mus.* p. 42 (1848); *Léot. Ois. Trinidad*, p. 101 (1866).
Pothinus sulphureus, *Cab. & Heine, Mus. Hein.* Th. iv. p. 184 (1863).
Aganus caligatus, *Cab. & Heine, Mus. Hein.* Th. iv. p. 186 (1863).
Aganus crissalis, *Cab. & Heine, Mus. Hein.* Th. iv. p. 190 (1863).

Adult male. Similar to *T. caligatus*, but the entire head is blue and the wing-coverts are blacker, the upper parts also, especially the rump and upper tail-coverts and centre pair of tail-feathers, are much more blue, and there is no indication of a white pectoral band.

Adult female. Similar to that of *T. caligatus*, but no sign of white pectoral band.

Hab. Ranging from Dutch Guiana to the U. S. of Colombia. Trinidad.

a. ♂ ad. sk.	Surinam, April.	E. Bartlett, Esq [C.].
b, c. ♂ ♀ ad. et imm. sk.	Bartica Grove, British Guiana, Sept., Oct. (*Whitely*).	Salvin-Godman Coll.
d, e. ♂ ad. et imm. sk.	Camacusa, June, Oct. (*Whitely*).	Salvin-Godman Coll.
f. ♀ imm. sk.	Roraima, Dec. (*Whitely*).	Salvin-Godman Coll.
g. ♀ ad. sk.	Attapurow R., Feb. (*Whitely*).	Salvin-Godman Coll.
h. ♂ ad. sk.	Demerara.	Gould Coll.
i. ♂ ad. sk.	Venezuela (*Boucard*).	Sclater Coll.
j, k. ♂ ad. et imm. sk.	Trinidad.	Sclater&Gould Colls.
l–n. ♂ ♀ ad. sk.	Remedios, Antioquia (*Salmon*).	Sclater & Salvin-Godman Colls.
o–q. ♂ ad. sk.	No loc.	Gould Coll.

16. Trogon ramonianus.

Trogon ramoniana, *Deville et Des Murs, Rev. Zool.* p. 331 (1849); *Des Murs in Castelnau, Expéd., Zool. Ois.* p. 33, pl. xi. fig. 2 (1855); *Hartl. J. f. O.* 1857, p. 43.

Trogon ramonianus, *Bonap. Compt. Rend.* xlii. p. 955, note 1 (1856); *Sclat. P. Z. S.* 1858, p. 60; *Gould, Mon. Trog.* ed. ii. pl. 18 [text] (1858); *Tacz. Orn. Pérou*, iii. p. 171 (1886).

Agamus ramonianus, *Cab. & Heine, Mus. Hein.* Th. iv. p. 194 (1863).

Trogon meridionalis, *Sclat. & Salv. P. Z. S.* 1873, p. 293.

Adult male. Similar to the adult male of *T. meridionalis*, but the wing-coverts are entirely black.

In *immature males* the wing-coverts are faintly vermiculated with white, and are not to be distinguished from those of *T. meridionalis* of a similar age. As in the others, the upper parts are much greener than in the adult.

Adult female. The same as in *T. meridionalis*.

Hab. Ecuador and the Peruvian Amazons [? Oyapok, French Guiana].

a–d. ♂ ♀ ad. et imm. sk.	Sarayacu, Ecuador, Feb., Dec. (*Buckley*).	Salvin-Godman Coll.
e, f. ♂ ad. et imm. sk.	Napo, Ecuador.	Gould Coll.
g. ♀ ad. sk.	Chamicuros, Peruvian Amazons, July.	E. Bartlett, Esq. [C.].
h. ♂ imm. sk.	Lower Ucayali, May (*Bartlett*).	Salvin-Godman Coll.
i. ♂ ad. sk.	Lower Ucayali.	Gould Coll.
k, l. ♂ ♀ ad. sk.	Yquitos, Upper Amazons, Sept. (*Whitely*).	Salvin-Godman Coll.
m, n. ♂ ad. et imm. sk.	(?) Oyapok, Cayenne (*Verdey*).	Sclater Coll.

17. Trogon variegatus.

Trogon variegatus, *Spix, Av. Bras.* i. p. 49, pl. xxxviii. *a* (1824); *Steph. Shaw's Gen. Zool.* xiv. p. 218 (1826); *Gould, Mon. Trog.* ed. i. pl. 5 [text] (1838); *Gray, Gen. B.* i. p. 69 (1845); *Bonap.*

Consp. Gen. Av. i. p. 149 (1850); *v. Pelz. Sitz. Ak. Wien*, xx. p. 506 (1856); *Burm. Syst. Uebers. Th. Bras.* ii. p. 275 (1856); *v. Pelz. Orn. Bras.* pp. 19, 403 (1868–71); *Gould, Mon. Trog.* ed. ii. pl. 19 [text] (1875); *Sclat. & Salv. P. Z. S.* 1879, p. 633; *White, P. Z. S.* 1882, p. 618; *Sclat. & Hudson, Argent. Orn.* ii. p. 29 (1889).

Trogonurus variegatus, *Bonap. Consp. Vol. Zyg.* p. 14 (1854).

Hapalophorus variegatus, *Cab. & Heine, Mus. Hein.* Th. iv. p. 199 (1863).

Trogon purpuratus, *Swains. An. in Menag.* p. 330 (1837?); *id. Class. B.* p. 337 (1837); *id. B. Braz. & Mex.* pls. 63 & 64 (1841); *Bonap. Consp. Gen. Av.* i. p. 149 (1850).

Trogonurus purpuratus, *Bonap. Consp. Vol. Zyg.* p. 14 (1854).

Trogon behni, *Gould, Mon. Trog.* ed. ii. pl. 20 [text] (1875).

Adult male. Lores, cheeks, and throat black; head and chest greenish blue glossed with purple; back greenish glossed with golden bronze, shading into bluish green on the rump and upper tail-coverts; a more or less distinct white pectoral zone divides the chest from the breast and rest of underparts, which are blood-red; sides grey; thighs black; quills black, with white bases; primaries with white margins to the outer webs; secondaries with the outer webs finely vermiculated with black and white like the rest of the wing-coverts, except the greater primary-coverts which are black; middle pair of tail-feathers green glossed with blue, with a black terminal band, second and third pairs the same with the inner web black; three outer pairs with the basal and middle part black, the last inch white, and the remainder of the feather equally barred with moderately wide black and white bars; in older birds the black bars become imperfect or obsolete towards the end of the feathers, which become nearly pure white: bill dull yellow. Total length 9·3 inches, wing 4·9, tail 5·1, tarsus 0·55.

This species bears a close resemblance to *T. collaris*, from which it is only to be distinguished by the bluish-purple head and chest and the finer vermiculations of the wing-coverts.

Adult female. Head, upper parts, chest, and sides grey; a more or less distinct white pectoral zone separates the chest from the breast and rest of underparts; wings as in the male, but the outer webs of the secondaries and wing-coverts are black with narrow wavy bars of white, which are wider and more diffuse in the most adult; centre pair of tail-feathers blackish grey with a black terminal band, second and third pairs the same with the inner web black, three outer pairs have the outer half and the whole tip white, the rest black, and the white of the outer web as far as the shaft barred with black; in very old birds the outer web is nearly pure white and the bars disappear: bill yellowish horn. Total length 9·5 inches, wing 5, tail 5, tarsus 0·55.

Hab. Ranging from Bolivia across Southern Brazil to Rio de Janeiro and Bahia.

a. ♂ ad. sk. Bolivia (*Bridges*). Eyton Coll. (Type of *Trogon behni*, Gould.)

b. ♀ ad. sk.	Tilotilo, Prov. Yungas (*Buckley*).	Salvin-Godman Coll.
c. ♀ ad. sk.	Villa Maria, Brazil, Aug. (*Natterer*).	Salvin-Godman Coll.
d–f. ♂ ♀ ad. sk.	Chapada, Matto Grosso, June, July (*Smith*).	Salvin-Godman Coll.
g–i. ♂ ad. et ♀ imm. sk.	Rio.	Sclater Coll.
k–o. ♂ ♀ ad. sk.	Bahia (*Wucherer*).	Salvin-Godman Coll.
p–s. ♂ ad. sk.	Bahia (*Wucherer*).	Gould Coll.
t. ♂ ad. sk.	Rio Negro (*Wallace*).	Salvin-Godman Coll.
u. ♂ ad. sk.	Cajatuba near Pará (*Natterer*).	Salvin-Godman Coll.
v–x. ♀ ad. et imm. sk.	No locality.	Gould Coll.

18. **Trogon bolivianus.** (Plate XV.)

Trogon variegatus, *Sclat. & Salv.* (*nec Spix*) *P. Z. S.* 1866, p. 193, 1873, p. 293; *Tacz. Orn. Pérou*, iii. p. 165 (1886).

Adult male. Differs from the adult male of *T. variegatus* in having the back and upper parts glossed with blue instead of golden bronze; no white pectoral zone; the three outer pairs of tail-feathers black, crossed with narrow white bars, and the terminal one only twice as wide as the rest. Total length 9·8 inches, wing 4·9, tail 5, tarsus 0·55.

Immature male resembles the adult female, but the upper parts are beginning to assume the colours of the male; the least wing-coverts and the outer webs of the secondaries are somewhat widely barred with white, and the inner webs of the three outer pairs of tail-feathers are incompletely barred with white, in this respect approaching the adult male.

Adult female. Differs from the adult female of *T. variegatus* in having no trace of a white pectoral zone, the white marking on the outer web of the secondaries much reduced, and the whole of the three outer pairs of tail-feathers black, the outer web barred with white and the terminal margin the same colour: upper mandible blackish except the tip, which, together with the lower, is yellowish. Total length 9·7 inches, wing 4·8, tail 5·1, tarsus 0·5.

Hab. Ecuador and the Peruvian Amazons.

a. ♀ ad. sk.	Napo, Ecuador.	Gould Coll.
b. ♂ imm. sk.	Gualaquiza (*Frazer*).	Gould Coll.
c. ♂ ad. sk.	Cosnipata, July (*Whitely*).	Sclater Coll.
d, e. ♂ ♀ ad. sk.	Cosnipata, Feb., July (*Whitely*).	Salvin-Godman Coll. (Types of the species.)
f, g. ♂ ad. sk.	Yquitos, Aug. (*Whitely*).	Sclater Coll.
h, i. ♂ ad. sk.	Peruvian Amazons, Aug.	E. Bartlett, Esq. [C.].
k. ♂ ad. sk.	No locality.	Gould Coll.*

* This may possibly be the original specimen presented by Professor Behn to Mr. Gould. The specimen bears the date Feb. 3, 1837, in Mr. Gould's handwriting, which was probably the date when he received it.

19. Trogon surucura.

Surucuá, *Azara, Apunt. Hist. Nat. Páxar. Parag.* ii. p. 373, no. 276 (1802).

Trogon surucura, *Vieill. N. Dict. d'Hist. Nat.* viii. p. 322 (1817); *Gould, Mon. Trog.* ed. i. pl. 15 [text] (1838); *Gray, List Fissir. Brit. Mus.* p. 41 (1848); *Gray, Gen. B.* iii. App. to p. 69 (1849); *Bonap. Consp. Gen. Av.* i. p. 148 (1850); *v. Pelz. Sitz. Ak. Wien,* xx. p. 505 (1856); *v. Pelz. Orn. Bras.* pp. 19 & 403 (1868–71) *Bigg-Wither, Ibis,* 1879, p. 113; *White, P. Z. S.* 1882, p. 619; *Sclat. & Hudson, Argent. Orn.* ii. p. 29 (1889).

Trogon curucui, *Dubois, Orn. Gal.* i. p. 63, pl. 39 (1839).

Trogon curucuru, *Gray, Gen. B.* i. p. 69 (1845).

Curucujus surucua, *Bonap. Consp. Vol. Zyg.* p. 14 (1854).

Trogon surucua, *Burm. Syst. Uebers. Th. Bras.* ii. p. 274 (1856).

Hapalophorus surucua, *Cab. & Heine, Mus. Hein.* Th. iv. p. 199 (1863).

Trogon (Hapalophorus) surucua, *Gray, Hand-l. B.* i. p. 83 (1869).

Trogon leucurus, *Swains. An. in Menag.* p. 331 (1837?); *Swains. Class. B.* ii. p. 337 (1837); *Gray, Gen. B.* i. p. 70 (1845); *Bonap. Consp. Gen. Av.* i. p. 149 (1850).

Trogonurus leucurus, *Bonap. Consp. Vol. Zyg.* p. 14 (1854).

Adult male. Resembles the adult male of *T. variegatus*, from which it differs in its larger size, as well as in having no trace of a white pectoral band and the outer pair of tail-feathers with the basal and central part to the middle black and the rest white, the fifth pair with the basal two-thirds black and the rest white, and the fourth pair black with the apical part of the outer web and the tip white. Total length 11·1 inches, wing 5·6, tail 5·7, tarsus 0·6.

Adult female. Resembles the adult female of *T. variegatus*, but differs in its larger size and rather darker colour, as well as in having no trace of a white pectoral band; the bars on the wing-coverts and secondaries wider apart and more regular, and the outer webs of the three outer pairs of tail-feathers uniform white without black bars. Total length 11 inches, wing 5·7, tail 5·8, tarsus 0·6.

Hab. Ranging from Uruguay to Paraguay.

a. ♂ ad. sk.	Paraguay.	Gould Coll.
b. ♂ ad. sk.	Santa Catharina (*Rogers*).	Salvin-Godman Coll.
c. ♂ ad. sk.	Lagos dos Patos, Rio Grande do Sul (*Rogers*).	Salvin-Godman Coll.
d, e. ♂ ♀ ad. sk.	Minas Geraes (*Rogers*).	Sclater Coll.
f, g. ♂ ♀ ad. sk.	Bogota?	Gould Coll.
h. ♀ ad. sk.	S. America.	Purchased.

20. Trogon aurantius.

Trogon aurantius, *Spix, Av. Bras.* i. p. 47, pl. xxxvi. (1824); *Steph. Shaw's Gen. Zool.* xiv. p. 219 (1826); *Gould, Mon. Trog.* ed. i. pl. 14 [text] (1838); *Gray, Gen. B.* i. p. 69 (1845); *id. List Fissir. Brit. Mus.* p. 42 (1848); *Bonap. Consp. Gen. Av.* i. p. 149 (1850); *Burm. Syst. Uebers. Th. Bras.* ii. p. 279 (1856); *v. Pelz. Sitz. Ak. Wien,* xx. p. 505 (1856); *Sclat. Cat. Am. B.* p. 276

(1862); *Gould, Mon. Trog.* ed. ii. pl. 24 [text] (1869); *v. Pelz. Orn. Bras.* pp. 20, 403 (1868–71).
Aganus aurantius, *Cab. & Heine, Mus. Hein.* Th. iv. p. 192 (1863).
Trogon (Aganus) aurantius, *Gray, Hand-l. B.* i. p. 81 (1869).
Trogon chrysogaster, *Swains. An. in Menag.* p. 330 (1837?); *Swains. Class. B.* ii. p. 337 (1837).

Adult male and female. Differ from *T. surucura* only in having the breast and underparts orange instead of blood-red.

Immature males differ from the adult in having the outer webs of the secondaries and some of the coverts coarsely speckled and marked with white, and the three outer pairs of tail-feathers resemble those of the adult female.

Hab. Brazil and Guiana.

a, b. ♂ ad. et imm. sk.	South America [?].	Gould Coll.
c. ♀ ad. sk.	Guiana.	Purchased.
d f. ♂ ♀ ad. et imm. sk.	Brazil.	Salvin-Godman Coll.
g, h. ♂ imm. et ♀ ad. sk.	Brazil.	Sclater Coll.
i. ♀ ad. sk.	Brazil.	M. Claussen [P.].
k. Ad. sk.	Brazil.	Purchased.
l. ♂ ad. sk.	Novo Fribourgo, Prov. of Rio Janeiro (*Youds*).	Salvin-Godman Coll.

21. Trogon melanurus.

Couroucou à ventre rouge de Cayenne, *Daubent. Pl. Enl.* no. 452 [♂].
Couroucou gris à longue queue de Cayenne, *id. l. c.* no. 737 [♀].
Couroucou d'Amérique à ventre rose, *Levaill. Hist. Couroue. et Tourac.* pt. iii. p. 5, pls. 1, 2 [♂ ♀] (1806).
Trogon curucui, *Gm. S. N.* i. p. 403, var. δ (1788); *Lath. Ind. Orn.* i. p. 200, var. γ (1790).
Trogon curucui (*nec Linn.*), *Vieill. Encycl. Méth.* iii. p. 1362 (1823); *Spix, Av. Bras.* i. p. 49 (1824); *Less. Traité Orn.* p. 118 (1831); *Gray, Gen. B.* i. p. 69 (1845); *Bonap. Consp. Gen. Av.* i. p. 148 (1850); *Burm. Syst. Uebers. Th. Bras* ii. p. 275, note 2 (1856).
Trogon strigilatus (*nec Linn.*), *Spix, Av. Bras.* i. p. 49 (1824).
Trogon melanurus, *Swains. An. in Menag.* p. 329 (1837?); *id. Class. B.* p. 337 (1837); *Gould, Monog. Trog.* text to pt. 18 (1838); *Gray, List Fissir. Brit. Mus.* p. 41 (1848); *Cab. in Schomb. Brit. Guian.* iii. p. 718 (1848); *v. Pelz. Sitz. Ak. Wien*, xx. p. 506 (1856); *Sclat. P. Z. S.* 1857, p. 261, 1860, p. 284; *id. Cat. Am. B.* p. 277 (1862); *Sclat. & Salv. P. Z. S.* 1866, p. 193, 1867, pp. 583, 978, 1869, p. 598; *v. Pelz. Orn. Bras.* pp. 19, 402 (1868–71); *Sclat. & Salv. P. Z. S.* 1873, p. 293; *iid. Nomencl. Av. Neotr.* p. 104 (1873); *Gould, Mon. Trog.* ed. ii. pl. 29 [text] (1875); *Tacz. P. Z. S.* 1877, p. 328; *Salvin, Ibis*, 1886, p. 61; *Tacz. Orn. Pérou*, iii. p. 168 (1886).
Curucujus melanurus, *Bonap. Consp. Vol. Zyg.* p. 14 (1854).
Troctes melanurus, *Cab. & Heine, Mus. Hein.* Th. iv. p. 201 (1863).
Trogon nigricaudata, *Gould, Mon. Trog.* ed. i. pl. 18 (1838).
Troctes mesurus, *Cab. & Heine, Mus. Hein.* Th. iv. p. 202 (1863).

Adult male. Lores, cheeks, and chin black; rest of head, upper

parts, and chest green with bronze and blue reflexions; a white pectoral band separates the chest from the rest of the underparts, which are blood-red; thighs black; wings black; quills with white bases, the outer webs of the primaries margined and those of the secondaries vermiculated with white; greater primary-coverts black, rest of the coverts vermiculated like the outer webs of the secondaries; middle pair of tail-feathers green glossed with purplish blue, and with a terminal black band; second and third pairs the same but with the inner web black, fourth pair black with the basal half of the outer web glossed with green; two outer pairs black, sometimes slightly freckled with white on the margin of the outer web: bill orange. Total length 11·8 inches, wing 6·2, tail 6, tarsus 0·6.

An immature male differs from the adult in having the secondaries and greater secondary-coverts margined and marked on the outer web with white and buff, the chest grey slightly mixed with green, and the three outer pairs of tail-feathers tipped and irregularly barred on the terminal part of the outer web with white; the centre tail-feathers also are blackish slightly glossed with green, and without the terminal black bar of the adult.

Adult female. Head and upper parts dark grey, breast and chest lighter; rest of underparts blood-red; thighs blackish grey; wings as in the adult male but browner, and the white vermiculations on the wing-coverts and outer webs of the secondaries are much finer and further apart, often fainter, sometimes absent; tail blackish: bill with the culmen black, rest orange. Total length 11·7 inches, wing 6·2, tail 6, tarsus 0·6.

An immature female differs from the adult in having the outer webs of the secondaries margined with white, the two outer pairs of tail-feathers slightly tipped, and irregularly barred on the terminal half of the outer web, with white, and the fourth pair margined with white at the tip.

Hab. S. America north of about lat. 5° South.

a, b. ♂ ♀ ad. sk.	Bogota.	Gould Coll.
c. ♂ imm. sk.	Camacusa, British Guiana, Oct. (*Whitely*).	Salvin-Godman Coll.
d, e. ♂ ♀ ad. et imm. sk.	Bartica Grove, British Guiana, Nov., Dec. (*Whitely*).	Salvin-Godman Coll.
f. ♂ ad. sk.	Atápurow River, British Guiana, Jan. (*Whitely*).	Salvin-Godman Coll.
g. ♂ ad. st.	Demerara.	Purchased.
h–l. ♂ ♀ ad. et imm. sk.	Demerara.	Gould Coll.
m. ♂ ad. sk.	Demerara River, Nov. (*R. Swain*: Henshaw Coll.).	Salvin-Godman Coll.
n. ♀ ad. st.	Cayenne.	Zool. Soc. Coll.
o. ♂ ad. sk.	Cayenne (*Dillwyn*).	Sclater Coll.
p. ♀ ad. sk.	Oyapok.	Sclater Coll.
q. ♀ ad. sk.	Para, May (*Wallace*).	Salvin-Godman Coll.
r. ♂ ad. st.	Para.	R. Graham, Esq. [P.].
s. ♂ ad. sk.	Barra do Rio Negro, Dec. (*Wallace*).	Gould Coll.

t. ♂ ad. sk.	Marabitanas, Rio Negro, Mar. (*Natterer*).	Salvin-Godman Coll.
u. ♂ ad. sk.	Teffe, R. Amazon.	H. W. Bates [C.].
v. ♀ ad. sk.	Napo, Ecuador.	Gould Coll.
w, x. ♂ ♀ ad. sk.	Babahoyo, Ecuador (*Frazer*).	Gould Coll.
y–a'. ♂ ♀ ad. et imm. sk.	Sarayacu, Ecuador (*Buckley*).	Salvin-Godman Coll.
b', c'. ♂ ♀ ad. sk.	Santa Rita, Ecuador (*Buckley*).	Salvin-Godman Coll.
d', e'. ♂ ♀* ad. sk.	Yquitos, Upper Amazons, June, Sept. (*Whitely*).	Salvin-Godman Coll.
f'. ♀ ad. sk.	Pebas, E. Peru, Aug. (*Hauxwell*).	Salvin-Godman Coll.
g'–i'. ♂ ♀ ad. sk.	Upper Amazons, June (*Wallace*).	Salvin-Godman and Wallace Colls.
k'. ♀ ad. sk.	Upper Amazons.	E. Bartlett [C.].
l'. ♂ imm. sk.	Rio Javari.	H. W. Bates [C.].

22. Trogon macrurus.

Trogon macroura, *Gould, Mon. Trog.* ed. i. pl. 17 [text] (1838); *Gray, List. Fissir. Brit. Mus.* p. 41 (1848).
Trogon macrourus, *Gray, Gen. B.* i. p. 70 (1845); *Bonap. Consp. Gen. Av.* i. p. 150 (1850); *Gray, Hand-l. B.* i. p. 81 (1869); *Sclat. & Salv. Nomencl. Av. Neotr.* p. 104 (1873); *Gould, Mon. Trog.* ed. ii. pl. 30 [text] (1875); *Sclat. & Salv. P. Z. S.* 1879, p. 535.
Curucujus macrurus, *Bonap. Consp. Vol. Zyg.* p. 14 (1854).
Proctes macrurus, *Cab. & Heine, Mus. Hein.* Th. iv. p. 203 (1863).

Adult male. Resembles the adult male of *T. melanurus*, and differs only in size. Total length 12·4 inches, wing 6·6, tail 7·1, tarsus 0·6.

Adult female. Differs from the adult female of *T. melanurus* in size only. Total length 12·4 inches, wing 6·5, tail 6·8, tarsus 0·6.

The young differ from the adults as described in *T. melanurus*.

Hab. Panama to Colombia; (?) Bolivia.

a–d. ♂ ♀ ad. et imm. sk.	Panama (*McLeannan*).	Salvin-Godman and Sclater Colls.
e. ♀ ad. sk.	Paraiso Station, Isthmus of Panama (*Hughes*).	Salvin-Godman Coll.
f, g. ♂ ♀ ad. sk.	Colombia.	Gould Coll.
h–l. ♂ ♀ ad. et imm. sk.	Remedios, Antioquia (*Salmon*).	Salvin-Godman and Sclater Colls.
m. ♂ imm. sk.	Bolivia (?).	Gould Coll.
n. ♂ ad. sk.	No locality.	Gould Coll.
o, p. ♂ ♀ ad. st.	No locality.	

23. Trogon massena.

Trogon massena, *Gould, Mon. Trog.* ed. i. pl. 16 [text] (1838); *Gray, Gen. B.* i. p. 70 (1845); *id. List Fissir. Brit. Mus.* p. 41 (1848); *Bonap. Consp. Gen. Av.* i. p. 149 (1850); *Sclat. P. Z. S.*

* Assuming the male plumage.

1858, p. 96, 1859, p. 387; *Moore, P. Z. S.* 1859, p. 53; *Sclat. & Salv. Ibis*, 1859, p. 132; *Salv. Ibis*, 1861, p. 146; *Sclat. Cat. Am. B.* p. 277 (1862); *Cab. J. f. O.* 1862, p. 174; *Sclat. & Salv. P. Z. S.* 1864, p. 364; *Salv. P. Z. S.* 1867, p. 151; *Gray, Hand-l. B.* i. p. 81 (1869); *Sclat. & Salv. Nomencl. Av. Neotr.* p. 104 (1873); *Boucard, P. Z. S.* 1878, p. 48.

Curucujus massena, *Bonap. Consp. Vol. Zyg.* p. 14 (1854).

Troctes massenæ, *Cab. & Heine, Mus. Hein.* Th. iv. p. 204 (1863); *Gould, Mon. Trog.* ed. ii. pl. 31 [text] (1869).

Troctes hoffmanni, *Cab. & Heine, Mus. Hein.* Th. iv. p. 204 (1863).

Trogon erythronotus, *Müll. Reis. in Mex.* i. p. 229 (1864), and iii. p. 562 (1865).

Adult male. Differs from the males of *T. melanurus* and *macrurus* in having no white pectoral band, the vermiculations on the wing-coverts finer, the upper parts with green and bronze, but only slight blue reflexions, and the middle tail-feathers with comparatively dull bronze and green reflexions and diffuse black terminal bands. The size, too, is greater *. Total length 13·5 inches, wing 7·2, tail 7·1, tarsus 0·65.

The young of both sexes differ as described in *T. melanurus*.

Adult female. Resembles that of *T. macrurus*, which it usually exceeds considerably in size. Total length 12·7 inches, wing 7·2, tail 7, tarsus 0·65.

Hab. Ranges from Southern Mexico to Panama.

a. ♂ imm. st.	Mexico.	Purchased.
b–d. ♂ ♀ ad. et imm. sk.	Chimalapa, Tehuantepec, March (*Richardson*).	Salvin-Godman Coll.
e. ♀ ad. sk.	Teapa, Feb. (*Smith*).	Salvin-Godman Coll.
f. ♂ ad. sk.	Sources Rio de la Pasion, Guatemala, Feb. (*Salvin*).	Salvin-Godman Coll.
g. ♂ ad. sk.	Rashche, Vera Paz, March (*Salvin*).	Salvin-Godman Coll.
h. ♀ ad. sk.	Teleman, Vera Paz (*Salvin*).	Salvin-Godman Coll.
i–l. ♂ ♀ imm. sk.	Choctum, Vera Paz, Jan. (*Salvin*).	Salvin-Godman Coll.
m. ♀ ad. sk.	Chisec, Vera Paz (*Salvin*).	Salvin-Godman Coll.
n, o. ♂ imm. et ♀ ad. sk.	Guatemala.	Tweeddale Coll.
p–s. ♂ ♀ ad. et imm. sk.	Guatemala.	Gould Coll. (Types of the species.)
t, u. ♂ ad. et imm. sk.	Guatemala.	Sclater Coll.
v, w. ♂ ad. st.	Honduras.	Purchased.
x, y. ♂ ♀ ad. sk.	British Honduras (*Blancaneaux*).	Salvin-Codman Coll.
z. ♀ imm. sk.	Western District, British Honduras, Jan. (*Blancaneaux*).	Salvin-Godman Coll.

* It must be added that where the ranges of *T. macrurus* and the present species (*i. e.* at the Panama Railway, where both occur) approach they intergrade in size, and the latter becoming smaller, many having a wing-measurement of only 6·7, are only to be distinguished from *T. macrurus* by the absence of the white pectoral band in the male; the females cannot be distinguished with certainty.

a'–*c'*. ♂ ♀ ad. sk.	San Felipe, W. British Honduras, Feb., March, April (*Blancaneaux*).	Salvin-Godman Coll.
d', *e'*. ♂ ♀ ad. sk.	Cayo, W. British Honduras (*Blancaneaux*).	Salvin-Godman Coll.
f', *g'*. ♂ ♀ ad. et imm. sk.	Virgin Bay, Lake of Nicaragua.	Tweeddale Coll.
h', *i'*. ♂ ♀ ad. sk.	Chontales, Nicaragua (*Belt*).	Salvin-Godman Coll.
k', *l'*. ♂ ♀ ad. sk.	Valza, Costa Rica, Feb. (*Carmiol*).	Salvin-Godman Coll.
m', *n'*. ♂ ad. et imm. sk.	Bugaba, Chiriqui (*Arcé*).	Salvin-Godman Coll.
o'. ♀ ad. st.	Chiriqui.	Capt. Kellett and Lt. Wood.
p'. ♂ ad. sk.	Southern slope of Chiriqui (*Arcé*).	Salvin-Godman Coll.
q'. ♂ ad. sk.	Veragua (*Arcé*).	Salvin-Godman Coll.
r'. ♂ ad. sk.	Cordillera de Tolé, Veragua (*Arcé*).	Salvin-Godman Coll.
s'. ♂ ad. sk.	Panama.	Gould Coll.
t', *u'*. ♂ ♀ ad. sk.	Panama (*McLeannan*).	Salvin-Godman Coll.

24. **Trogon clathratus** *.

Trogon clathratus, *Salvin*, *P. Z. S.* 1866, p. 75, 1867, p. 151 ; *id. Ibis*, 1869, p. 316; *Gray*, *Hand-l. B.* i. p. 81 (1869); *Salvin*, *P. Z. S.* 1870, p. 202; *Sclat. & Salv. Nomencl. Av. Neotr.* p. 104 (1873); *Gould*, *Mon. Trog.* ed. ii. pl. 28 [text] (1875).

Adult male. Resembles *T. melanurus*, but differs in having no pectoral band and the outer pairs of tail-feathers are barred on both webs with narrow distinct white bars. Total length 11·7 inches, wing 6·4, tail 5·9, tarsus 0·6.

Immature males have the three outer pairs of tail-feathers edged at the tip with white and the wing-coverts, scapulars, and outer secondaries barred and mottled with buff and white; otherwise they resemble the adult.

Adult female. Differs from that of *T. melanurus* in having the breast *brown* in contrast to the dark grey chest, and the outer tail-feathers barred with white as in the adult male, but the bars are narrower and less complete on the inner web. Total length 11·7 inches, wing 6·4, tail 6, tarsus 0·6.

Immature females differ from the adult in the same points as described in the immature male.

Hab. Costa Rica and Panama.

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* *Trogon clathratus*, Lawr. Ann. Lyc. N.Y. ix. p. 119 (1868). The specimen described is certainly not the female of Salvin's species, for the breast is described as being "plumbeous slate" instead of brown, and the *four* central tail-feathers are of a "fine *vandyke brown*," whereas they are blackish grey. We are unable to apply the description to any Trogon with which we are acquainted.

a. ♂ ad. sk.	Costa Rica (*Carmiol*).	Sclater Coll.
b. ♀ ad. sk.	Angostura, Costa Rica, Feb. (*Carmiol*).	Salvin-Godman Coll.
c. ♂ imm. sk.	Calovevora, Veragua (*Arcé*).	Salvin-Godman Coll.
d–f. ♂ ♀ ad. sk.	Cordillera de Tolé, Veragua (*Arcé*).	Salvin-Godman Coll.
g. ♂ ad. sk.	Santa Fé, Veragua (*Arcé*).	Salvin-Godman Coll. (Type of the species.)
h. ♂ ad. sk.	Veragua (*Arcé*)	Gould Coll.

6. HAPALODERMA.

Type.

Apaloderma, *Swains. Class. B.* ii. p. 337 (1837) ..... H. narina.
Hapaloderma, *Agass. Index Universal.* p. 172 (1846) .... H. narina.

Both sexes have the three central pairs of tail-feathers purplish or greenish, without any terminal black bars to the central pair. Infraloral space feathered; gape and cheeks partially covered by a band of feathers from the lores to the ear-coverts; a naked space behind the eye. Upper tail-coverts normally developed. Edge of the upper mandible with or without teeth behind the subterminal notch. Throat greenish or black.

Range. Africa.

Key to the Species *.

I. Terminal part of the outer pair of tail-feathers white.
  A. Median wing-coverts, greater secondary-coverts, and secondaries black, vermiculated with white and margined on the outer webs with green.
    a. Chest green ..... *narina* ♂, p. 477.
    b. Chest rusty brown ..... *narina* ♀, p. 477.
  B. Median wing-coverts, greater secondary-coverts, and secondaries clearly vermiculated with black and white, never edged with green; chest green ..... *constantia* ♂, p. 479.
II. Terminal part of the outer pair of tail-feathers white, barred with black glossed with purple; median wing-coverts, greater secondary-coverts, and secondaries black, with narrow, distinct, wavy, white bars; chest green .... *vittatum* ♂, p. 480.

1. Hapaloderma narina.

Couroucou narina, *Levaill. Ois. d'Afr.* v. p. 73, pls. 228 & 229 (1806); *id. Hist. Couroue. et Tourac.* pt. iii. p. 16, pls. 10 & 11 (1806).
Trogon narina, *Steph. Shaw's Gen. Zool.* ix. p. 14 (1815); *Vieill. N.*

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* Doubtful species.

Le Couroucou géant, *Levaill. Hist. Couroue. et Tourac.* pt. iii. pl. 12 (1806).
Trogon gigas, *Vieill. N. Dict. d'Hist. Nat.* iii. p. 315 (1817); *Gould, Mon. Trog.* ed. 1. pl. 28 [text] (1838).

Dict. d'Hist. Nat. viii. p. 318 (1817); *id. Encycl. Méth.* iii. p. 1360 (1823); *Less. Traité Orn.* p. 121 (1831); *Gould, Mon. Trog.* ed. i. pl. 26 [text] (1838); *Sundev. Krit. Framst.* p. 49 (1857); *Brehm, Ergebn. Reise Habesch*, p. 276 (1863); *Monteiro, P. Z. S.* 1865, p. 92; *Finsch & Hartl. Vög. Ostafr.* p. 155 (1870); *Finsch, Tr. Z. S.* vii. p. 219 (1870); *Sharpe, P. Z. S.* 1871, p. 134; *Fisch. & Reich. J. f. O.* 1878, p. 253.

Apaloderma narina, *Swains. Class. B.* ii. p. 337 (1837); *Gray, Gen. B.* i. p. 70 (1845); *id. List Fissir. Brit. Mus.* p. 43 (1848); *Bonap. Consp. Gen. Av.* i. p. 150 (1850); *Layard, B. S. Afr.* p. 61 (1867); *Gray, Hand-l. B.* i. p. 83 (1869).

Hapaloderma narina, *Cab. & Heine, Mus. Hein.* Th. iv. p. 164 (1863); *Kirk, Ibis*, 1864, p. 323; *Bianconi, Spec. Zool. Mosamb.* fasc. xviii. p. 320 (1867); *Heugl. Orn. N.O.-Afr.* p. 176 (1869); *Gurney, Ibis*, 1873, p. 254; *Gould, Mon. Trog.* ed. ii. pl. 34 [text] (1875); *Shelley, Ibis*, 1875, p. 68; *Sharpe in Layard's B. S. Afr.* p. 106 (1875); *Bocage, Orn. d'Angola*, p. 82 (1881); *Gurney, Ibis*, 1881, p. 124; *Shelley, P. Z. S.* 1885, p. 224.

Trogon (Hapaloderma) narina, *Gurney, Ibis*, 1882, p. 75.

Adult male. Head, chest, back, rump, and upper tail-coverts green, the latter with bluish reflexions, the rest with golden bronze; breast and rest of underparts blood-red, rather darker on the upper breast; thighs blackish grey; wings black; quills with white bases; primaries margined on the outer web with white, secondaries finely vermiculated on the outer web with white and margined with green; greater primary-coverts black, narrowly margined on the outer web with green: rest of the coverts finely vermiculated with white and margined with green; three middle pairs of tail-feathers blackish glossed with dark blue and edged on the outer web with green; three outer pairs have the basal two-thirds of the tail blackish glossed with blue, and the remainder white, the white meeting the black obliquely and extending towards the base on the outer web: bill lemon-yellow; feet dark flesh-colour; iris bright chestnut. Total length 11·5 inches, wing 5·2, tail 6·6, tarsus 0·65.

An immature male differs only from the adult in having the green of the chest mixed with rusty brown, and the culmen dusky.

A somewhat younger bird has most of the lores, throat, and chest rust-brown; the rest of the underparts pinkish, except the under tail-coverts, which are whitish, shaded at the tips with buff, and the outer secondaries blotched with white towards the extremities of the outer webs.

A still younger specimen resembles the above, but has a ring of buff feathers tipped with green at the base of the throat, and the feathers of the chest are pinkish grey, narrowly barred with dusky intermixed with buff, tipped with greyish black.

Adult female. Differs from the adult male in having the lores, throat, and chest rusty brown, the latter shading gradually into the pinkish-grey breast: culmen and base of lower mandible dark horn-colour, rest of lower mandible lemon-yellow; feet dark flesh; iris brown. Total length 11·1 inches, wing 5·1, tail 6·6, tarsus 0·65.

Immature females differ from the above in having the outer secondaries and greater secondary-coverts vermiculated with brown and black, and each ornamented with a large subterminal blotch of white, edged with buff; some of the outer median wing-coverts have subterminal blotches or spots of rufous-buff, and the under tail-coverts are white, shaded at the extremities with buff.

A still younger specimen differs from the above in having the pinkish-grey breast-feathers transversely barred with dusky.

Hab. Ranging from N.E. Africa to the Cape of Good Hope and on the South-west as far north as Angola.

a, b. ♂ ♀ ad. sk.	Bogosland (*Esler*).	Purchased.
c. ♂ imm. sk.	Abyssinia (*Jesse*).	Tweeddale Coll.
d. ♂ ad. sk.	Shoa, April (*Antinori*).	Shelley Coll.
e, f. ♂ ♀ ad. sk.	Semmio, Nyam-Nyam, Feb., May.	Herr F. Bohndorff [C.].
g. ♂ ad. sk.	Kilimanjaro.	H. H. Johnston, Esq. [C.].
h. ♂ ad. sk.	Melinda (*Kirk*).	Shelley Coll.
i. ♂ imm. sk.	Zambesi (*Mellar*).	Sharpe Coll.
k p. ♂ ad. et imm. sk.	Durban.	Shelley Coll.
q, r. ♂ ad.; ♀ imm. sk.	Pinetown, Natal, June (*Ayres*).	Shelley Coll.
s. ♀ ad. sk.	Orange R.	Gould Coll.
t. ♂ ad. sk.	Cape of Good Hope.	Gould Coll.
u, v. ♂ ad. sk.	Knysna, Dec. (*Andersson*).	Sharpe Coll.
w. ♂ imm. sk.	Benguela.	J. J. Monteiro, Esq. [C.].
x. ♀ ad. sk.	Angola (*Hamilton*).	Sharpe Coll.
y, z. ♂ ♀ ad. sk.	S. Africa.	Sharpe Coll.
a', b'. ♂ ♀ ad. st.	S. Africa.	Purchased.
c'. ♀ imm. sk.	S. Africa.	Gould Coll.
d', e'. ♂ ad.; ♀ imm. sk.	Africa.	Purchased.

2. Hapaloderma constantia.

Hapaloderma narina, *Cass. Pr. Ac. Philad.* p. 38 (1857).
Trogon narina, *Hartl. Orn. W.-Afr.* p. 263 (1857); *Fischer & Reich. J. f. O.* 1879, p. 342.
Hapaloderma constantia, *Sharpe and Ussher, Ibis*, 1872, p. 181; *Gould, Mon. Trog.* ed. ii. pl. 35 [text] (1875); *Shelley, P. Z. S.* 1881, p. 566; *Gurney, Ibis*, 1882, p. 75.

Adult male. Differs from *H. narina* in having the median greater secondary-coverts and secondaries finely and clearly vermiculated with black and white, without any green margins to the outer webs or tips, while the white on the three pairs of tail-feathers is much more extensive, so that the sixth pair are black at the base only:

bill appears to be always dark horn, becoming orange-yellow towards the tip of the lower mandible; feet dark flesh. Total length 11·5 inches, wing 4·9, tail 6·4, tarsus 0·6.

The female is not known.

Hab. W. Africa: Fantee to the Interior of the Calabar River.

a, b. ♂ ad. sk.	Fantee (*Aubinn*).	Sharpe Coll. (Types of species.)
c. ♂ ad. sk.	Fantee (*Ussher*).	Shelley Coll.
d. ♂ ad. sk.	Denkera, Oct.	Gould Coll.
e. ♂ ad. sk. (ex spirit specimen).	Calabar R.	Dr. A. Smith [C.].

3. **Hapaloderma vittatum.** (Plate XVI.)

Hapaloderma vittatum, *Shelley, P. Z. S.* 1882, p. 306, 1889, p. 359.

Adult male. Lores and throat black; top of the head, feathered part of cheeks, and ear-coverts very dark olive-green; back, rump, and upper tail-coverts bronze-green, with bluish-green reflexions; throat shading into a bronze band, succeeded in turn by narrow purple-blue and dark green bands shading into one another and together clothing the chest; breast and rest of underparts blood-red; wings black; quills with white bases, primaries margined on the outer web with white, greater primary-coverts black; least wing-coverts black, widely margined with green; rest of wing-coverts and secondaries black, with narrow distinct wavy bars of white, some of the median coverts narrowly edged with green; three middle pairs of tail-feathers blackish glossed with purplish blue, three outer pairs with the basal part black glossed with purple, and terminal portion white, with narrow bars of black glossed with purple across both webs: bill yellow, much smaller than in *H. narina*; "feet pale flesh; iris crimson-brown, naked spot in front of eyes yellow" (*F. J. Jackson*). Total length 11 inches, wing 5, tail 7, tarsus 0·6.

A third adult male specimen obtained by Mr. F. J. Jackson at Kikuyu completes, as far as we are aware, all the specimens known.

The female is unknown.

Hab. East Africa: Mamboio, Kilimanjaro, and Kikuyu Country (*Jackson*).

a. ♂ ad. sk.	Mamboio (*Kirk*).	Shelley Coll. (Type of species.)
b. ♂ ad. sk.	Kilimanjaro, Aug.	H. C. V. Hunter, Esq. [P.].

7. HARPACTES.

	Type.
Harpactes, *Swains. Class. B.* ii. p. 337 (1837)	H. malabaricus.
Hapalurus, *Reich. Av. Syst. Nat.* pl. 88 (1850).....	[H. diardi.]
Duvaucelius, *Bonap. Consp. Vol. Zyg.* p. 14 (1854) ..	H. rutilus.
Pyrotogon, *id. l. c.*	H. ardens.
Oreskios, *id. l. c.*.....	H. gouldi.
Orescius, *Cab. & Heine, Mus. Hein.* iv. p. 161 (1863)..	H. gouldi.

Centre pair of tail-feathers chestnut, with a black terminal band in both sexes. Infraloral space, cheeks, and space round the eye naked. Upper tail-coverts not abnormally lengthened. Upper mandible behind the subterminal notch is not toothed.

Range. India, Malay Peninsula, Siam, Cochin China, Ceylon, Sumatra, Billiton, Java, Borneo, and the Philippine Is.

Key to the Species.

(*Males.*)

a. Breast and underparts scarlet or crimson.
  a'. Head black.
    a''. Chest black, and divided from the breast by a white pectoral band.
      a'''. Nuchal collar pink; terminal part of the outer tail-feathers white freckled with black ..... *diardi*, p. 482.
      b'''. Nuchal collar scarlet; terminal part of the outer tail-feathers pure white.. *kasumba*, p. 483.
      c'''. Nuchal region black like the head; terminal part of the outer tail-feathers pure white ..... *fasciatus*, p. 485.
    b''. Chest scarlet like the breast.
      d'''. Rump rusty brown; size larger..... *orrhophæus*, p. 493.
      e'''. Rump scarlet; size smaller..... *duvauceli*, p. 491.
  b'. Head crimson; chest dull scarlet-lake .... *erythrocephalus*, p. 488.
  c'. Head dark crimson; chest pink ..... *ardens*, p. 487.
  d'. Head brilliant scarlet; chest grey ..... *whiteheadi*, p. 488.
b. Breast and underparts orange; head and chest olive-yellow ..... *oreskios*, p. 494.

(*Females.*)

a. Breast and belly scarlet, lake, or pink.
  a'. Terminal part of the outer pairs of tail-feathers white, freckled with black ..... *diardi*, p. 482.
  b'. Terminal part of the outer pairs of tail-feathers pure white.
    a''. Size larger: wing 5·7 inches ..... *erythrocephalus*, p. 488.
    b''. Size smaller: wing 4·2 inches..... *duvauceli*, p. 491.
b. Breast and belly deep buff or rust-colour.
  c'. Throat and chest alike, contrasting in colour with the breast.
    c''. Chest brownish grey..... *kasumba*, p. 483.
    d''. Chest brownish buff ..... *fasciatus*, p. 485.
    e''. Chest pearl-grey ..... *whiteheadi*, p. 488.
  d'. Throat black, contrasting in colour with the chest and breast.
    f''. Chest dull buff; size larger, wing 5·2 .. *ardens*, p. 487.
    g''. Chest rufous-buff; size smaller, wing 4·3 *orrhophæus*, p. 493.
c. Breast and belly orange..... *oreskios*, p. 494.

1. Harpactes diardi.

Trogon diardii, *Temm. Pl. Col.* pl. 541 (1832); *Gould, Mon. Trog.* ed. i. pl. 30 [text] (1838); *Müll. Verhandl. Land- en Volkenk.* p. 405 (1843–44); *Low, Sarawak*, p. 410 (1848).

Harpactes diardii, *Swains. Class. B.* ii. p. 337 (1837); *Gray, Gen. B.* i. p. 71 (1845); *Gray, List Fissir. Brit. Mus.* p. 44 (1848); *Blyth, Cat. B. Mus. As. Soc.* p. 80 (1849); *Bonap. Consp. Gen. Av.* i. p. 151 (1850); *Horsf. & Moore, Cat. B. Mus. E. Ind. Co.* ii. p. 716 (1856–58); *Moore, P. Z. S.* 1859, p. 460; *Gould, B. Asia*, i. pl. 70 (1865); *Gray, Hand-l. B.* i. p. 84 (1869); *Wald. Ibis*, 1871, p. 161; *Gould, Mon. Trog.* ed. ii. pl. 38 [text] (1875); *Sharpe, P. Z. S.* 1875, p. 102, 1879, p. 326, 1881, p. 791; *Hume, Str. F.* viii. p. 48 (1879); *Sharpe, Ibis*, 1879, p. 239; *Nicholson, Ibis*, 1883, p. 89; *Everett, J. Straits Br. R. As. Soc.* p. 166 (1889); *Sharpe, Ibis*, 1890, pp. 3, 281.

Pyrotrogon diardi, *Cab. & Heine, Mus. Hein.* Th. iv. p. 156 (1863); *Salvad. Cat. Ucc. Borneo*, p. 28 (1874).

Adult male. Fore part of the head black, shading into dull crimson on the occiput *, and bounded by a bright pink nuchal collar; ear-coverts, chin, and chest deep black; back rusty brown, shading into rust on the rump and upper tail-coverts; breast and rest of underparts scarlet-lake; wings black; quills with white bases, primaries margined on the outer web with white; outer webs of the secondaries and whole of wing-coverts except the greater primary-coverts with narrow distinct undulating white bars; centre pair of tail-feathers bright rusty brown, with a terminal black band; second and third pairs black, three outer pairs with the basal part black and the terminal white closely vermiculated with black: bill pale cobalt-blue tinged with violet, darker at the tip; naked skin on the cheeks and round the eye violet; iris red-brown; feet dull violet-blue. Total length 12 inches, wing 5·7, tail 6·6, tarsus 0·55.

Immature males have the black of the basal part of the chest mixed with brown, the secondaries and wing-coverts like those of the adult female, and the tail-feathers pointed, the centre pair being devoid of a terminal black bar, and the outer pairs having the white terminal part much more sparsely vermiculated with black: otherwise the plumage resembles that of the adult.

Still younger specimens have the breast entirely brown, and the outer secondaries rusty buff irregularly barred with black.

Adult female. Head darker brown; back rusty brown, shading into rust on the rump; chest reddish brown, shading into rusty on the lower parts and sides of the chest; breast and belly scarlet-pink; under tail-coverts rusty pink; wings as in the male, but the secondaries and wing-coverts are vermiculated and irregularly barred with rust-brown and black; tail as in the male, but the white terminal part of the three outer pairs of feathers is less thickly vermiculated with black: naked skin round eye and gape pale violet; base of mandible cobalt-blue;

* In some Bornean specimens the dull crimson of the occiput extends to the culmen.

irides dark brown; legs and feet dark pinky flesh-colour. Total length 12 inches, wing 5·6, tail 6·7, tarsus 0·55.

Immature females have the outer secondaries and some of the wing-coverts much more coarsely marked than the adult, and the tail-feathers as in the immature male.

Hab. S. Malay Peninsula, Sumatra and Borneo.

a. ♀ ad. sk.	[Nepal!]	B. H. Hodgson, Esq. [P.].
b–*g*. ♂ ♀ ad. et imm. sk.	Klang, Salangore, Jan., Mar., June, July (*Davison*).	Hume Coll.
h–*l*. ♂ ♀ ad. et imm. sk.	Neealys, 31 miles from Malacca, Oct. (*Davison*).	Hume Coll.
m. ♂ ad. sk.	Kuroo (Native State), 26 miles from Malacca, Nov. (*Davison*).	Hume Coll.
n, *o*. ♂ ad. et imm. sk.	Pulo Seban, 22 miles from Malacca, Oct. (*Davison*).	Hume Coll.
p–*g'*. ♂ ♀ ad. et imm. sk.	Malacca, July, Aug., Sept.	Hume Coll.
h'–*k'*. ♂ ♀ ad. et imm. sk.	Malacca.	Tweeddale Coll.
l', *m'*. ♂ ad.; ♀ imm. sk.	Malacca.	A. R. Wallace, Esq. [C.].
n'. ♂ ad. sk.	Malacca (*Charlton*).	Gould Coll.
o'. ♀ ad. sk.	Malacca (*Cantor*).	India Museum.
p'–*s'*. ♂ ad. et ♀ imm. sk.	Foot of Gunnong Pulai, Johore, Mar., Aug. (*Davison*).	Hume Coll.
t'–*v'*. ♂ ♀ ad. et ♀ imm. sk.	Singapore.	Hume Coll.
w'. ♀ ad. sk.	Singapore.	Gould Coll.
x', *y'*. ♂ ad. et imm. st.	Sumatra.	Purchased.
z', *a''*. ♂ ad. sk.	Sumatra.	A. R. Wallace, Esq. [C.].
b''. ♂ ad. sk.	Sumatra (*Bock*).	Tweeddale Coll.
c''. ♂ ad. sk.	Borneo.	Gould Coll.
d'', *e''*. ♂ ad. sk.	Labuan (*Low*).	R. B. Sharpe, Esq. [P.].
f''. ♂ ad. sk.	Lawas River.	H. Veitch, Esq. [P.].
g''. ♂ ad. st.	Indian Archipelago.	Purchased.

2. Harpactes kasumba.

Trogon kasumba, *Raffl. Trans. Linn Soc.* xiii. p. 282 (1822).

Harpactes kasumba, *Blyth, Cat. B. Mus. As. Soc.* p. 80 (1849); *Gould, B. Asia*, i. pl. 74 [text] (1856); *Horsf. & Moore, Cat. B. Mus. E. Ind. Co.* ii. p. 715 (1856–58); *Moore, P. Z. S.* 1859, p. 460; *Sclat. P. Z. S.* 1863, p. 213; *Gould, Mon. Trog.* ed. ii. pl. 10 [text] (1869); *Wald. Ibis*, 1871, p. 161; *Tweedd. Ibis*, 1877, p. 293; *Hume, Str. F.* viii. p. 48 (1879); *Sharpe, P. Z. S.* 1881, p. 791, 1887, p. 432; *Everett, J. Straits Br. R. As. Soc.* p. 166 (1889); *Sharpe, Ibis*, 1890, pp. 3, 281.

Pyrotrogon kasumba, *Cab. & Heine, Mus. Hein.* iv. p. 158 (1863); *Salvad. Cat. Ucc. Borneo*, p. 29 (1874).
Trogon fasciatus, *Temm.* (*nec Gm.*) *Pl. Col.* 321 (1825); *Less. Traité Orn.* p. 121 (1831); *Low, Sarawak*, p. 410 (1848).
Trogon condea, *Cuv. Règ. An.* i. p. 459 (1829).
Trogon temminckii, *Gould, P. Z. S.* 1835, p. 29; *Gould, Mon. Trog.* ed. i. pl. 29 [text] (1838).
Harpactes temminckii, *Swains. Class. B.* ii. p. 337 (1837); *Gray, Gen. B.* i. p. 70 (1845); *id. List Fissir. Brit. Mus.* p. 44 (1848); *id. Gen. B.* iii. App. p. 4 (1849); *Bonap. Consp. Gen. Av.* i. p. 151 (1850).

Adult male. Top of the head, throat, and chest deep black; nape, breast, and rest of underparts blood-red, the chest and breast separated by a narrow white band; back and rump orange-brown, shading to rusty on the upper tail-coverts*; wings black; quills white at the base, the basal half of outer web of the primaries margined with white; secondaries and wing-coverts (except the greater primary-coverts, which are uniform black) with narrow, very distinct white bars; middle pair of tail-feathers reddish brown tipped with black, second and third pairs black, and three outer pairs with the basal two-thirds black and the terminal part obliquely white, the white extending furthest on the outer web: tip and edges of bill black, rest dull cobalt; naked skin round eye and at gape pale cobalt; iris dark brown; legs and feet bluish purple. Total length 12·3 inches, wing 5·7, tail 7·1, tarsus 0·5.

An *immature male* differs from the adult in having the breast and belly mixed with rufous-buff; the secondaries somewhat widely barred and margined with buff; the tail-feathers pointed, and the centre pair without the terminal black band; otherwise the plumage resembles that of the adult.

A somewhat younger specimen differs from the above in having the black chest mixed with grey feathers.

A still younger specimen has the chest grey with only a few black feathers, the breast and underparts rufous-buff tinged in the centre with pink, and the wing-coverts barred with buff instead of white.

Adult female. Head brown, shading into olive-brown on the back and rust on the rump and upper tail-coverts; throat and chest grey, breast and rest of underparts rusty buff; wings like those of the male, but the bars are buff instead of white; tail as in the male. Total length 11·9 inches, wing 5·7, tail 7·2, tarsus 0·5.

Young females differ from the adult in having the wing-coverts and secondaries more widely barred and margined with buff and the tail-feathers pointed, the centre pair having no black terminal band.

Hab. S. Malay Peninsula, Sumatra, Borneo.

* An adult male from Malacca, collected by Wallace, has a band of scarlet between the lower back and the rump.

a. ♂ ad. sk.	Perak.	L. Wray, Esq. [P.].
b–*e*. ♂ ♀ ad. sk.	Klang, Salangore, Feb., March, April, Sept. (*Davison*).	Hume Coll.
f–*h*. ♂ ♀ imm. sk.	Neealys, 31 miles from Malacca, Oct. (*Davison*).	Hume Coll.
i–*s*. ♂ ♀ ad. et imm. sk.	Malacca, July, Aug., Sept.	Hume Coll.
t, *u*. ♂ ad. sk.	Malacca.	Wallace Coll.
v. ♀ ad. sk.	Malacca.	W. Harvey, Esq. [P.].
w. ♀ imm. sk.	Malacca (*Cantor*).	India Museum.
x–*b'*. ♂ ♀ ad. et imm. sk.	Malacca.	Tweeddale Coll.
c'. ♀ ad. sk.	Mt. Ophir, Malacca, Aug. (*Wardlaw Ramsay*).	Tweeddale Coll.
d', *e'*. ♂ ad. sk.	Foot of Gunnong Pulai, Johore, Mar. (*Davison*).	Hume Coll.
f'. ♀ imm. sk.	Singapore.	Hume Coll.
g'. ♂ ad. sk.	Lampong, S.E. Sumatra (*Buxton*).	Tweeddale Coll.
h'. ♂ imm. st.	Borneo.	Purchased.
i'. ♂ ad. sk.	N.W. Borneo.	Tweeddale Coll.
k'. ♂ ad. sk.	Sarawak (*Everett*).	Tweeddale Coll.
l'. ♂ ad. sk.	Sarawak, Sept.	Hume Coll.
m'. ♀ ad. sk.	Labuan (*Low*).	R. B. Sharpe, Esq. [P.].

3. Harpactes fasciatus.

Trogon Ceylonensis, *Briss. Orn.* ii. p. 19 (1760).

Trogon fasciatus, *Pennant, Ind. Zool.* ed. i. p. 4 (1769); *Gm. S. N.* i. p. 405 (1788); *Lath. Ind. Orn.* i. p. 200 (1790); *Penn. Ind. Zool.* ed. 2, p. 35, pl. iv. (1790); *Steph. in Shaw's Gen. Zool.* ix. p. 6 (1815).

Harpactes fasciatus, *Blyth, Cat. B. Mus. As. Soc.* p. 80 (1849); *Layard, Ann. Mag. N. H.* xiii. p. 171 (1853); *Gould, B. Asia*, pl. 75 [text] (1854); *Horsf. & Moore, Cat. B. Mus. E. Ind. Co.* ii. p. 714 (1856–58); *Jerd. B. Ind.* i. p. 201 (1862); *Beav. Ibis*, 1869, p. 406; *Holdsw. P. Z. S.* 1872, p. 422; *Hume, Str. F.* i. p. 432 (1873); *Ball, Str. F.* ii. p. 385 (1874); *Legge, Ibis*, 1874, p. 13, 1875, p. 281; *Gould, Mon. Trog.* ed. ii. pl. 38 (1875); *Thompson, Str. F.* iv. p. 498 (1876); *Ball, Str. F.* iv. p. 231 (1876); *Fairbank, Str. F.* iv. pp. 254, 264 (1876); *Hume, Str. F.* iv. p. 382 (1876); *Fairbank, Str. F.* v. p. 393 (1877); *Ball, Str. F.* v. p. 413 (1877); *Hume, Str. F.* vii. p. 507 (1878); *Bourdillon, Str. F.* vii. p. 172 (1878); *Ball, Str. F.* vii. pp. 203, 235 (1878); *Legge, B. Ceylon*, i. p. 269 (1878); *Butler, Str. F.* ix. p. 381 (1880); *Davison, Str. F.* x. p. 349 (1883); *Macgregor, Str. F.* x. p. 436 (1887); *Oates, ed. Hume's Nests & Eggs Ind. B.* ii. p. 340 (1890).

Pyrotrogon fasciatus, *Cab. & Heine, Mus. Hein.* Th. iv. p. 156 (1863).

Trogon malabaricus, *Gould, P. Z. S.* 1834, p. 26; *id. Mon. Trog.* ed. i. pl. 31 [text] (1838).

Harpactes malabaricus, *Swains. Class. B.* ii. p. 337 (1837); *Jerd. Madr. Journ.* xi. p. 232 (1840); *Gray, Gen. B.* i. p. 71 (1845); *id. List Fissir. Brit. Mus.* p. 44 (1848); *Bonap. Consp. Gen. Av.* i. p. 151 (1850).

Adult male. Head, nape, throat, and upper chest dull black or blackish grey; back dull orange-brown, shading into rusty buff on the rump and upper tail-coverts; a broad white band covers the lower chest and divides the dark upper parts from the scarlet breast, which gradually shades into pink on the under tail-coverts; wing and tail as in *H. kasumba*, but the markings on the wing-coverts are nearer and less distinct; the second pair of tail-feathers, except in the oldest examples, has a basal shaft-streak of chestnut more or less developed, and often present also on the third pair: bill bluish black, orbital skin smalt-blue; legs brown tinged with vinous; iris dark brown. Total length 12·1 inches, wing 5·1, tail 6·8, tarsus 0·55.

Immature males differ from the adult in having the chest mixed with grey feathers and the breast and belly with rusty-buff, some of the wing-coverts and secondaries barred with buff; the tail-feathers pointed, the middle pair devoid of terminal black bars and the outer web and the margin of the inner web of the second and third pairs chestnut, the rest black, but the amount and extent of these colours varies much according to age.

Adult female. Head and upper chest olive-brown, rather brighter on the back and shading into rust on the rump and upper tail-coverts; lower chest, breast, and underparts rufous-buff; wing like that of the female of *H. kasumba*, but the rusty-buff bars are closer together; tail as in the adult male, but the second and third pairs resemble in colouring those described for the immature male: iris dark brown; bill, gape, orbital skin, and legs cobalt-blue; claws paler. Total length 11·5 inches, wing 4·9, tail 6·5, tarsus 0·55.

Immature females differ from the above in having the wing-coverts and secondaries more widely and less regularly barred with buff and the tail-feathers like those of the young male.

Hab. Western and Central India and Ceylon.

a–c. ♂ ♀ ad. et imm. sk.	Khandeish.	Tweeddale Coll.
d, *e.* ♂ ad. et imm. sk.	Dangs, W. Khandeish, May (*James*).	Hume Coll.
f. ♂ ad. sk.	N. Canara.	Hume Coll.
g–i. ♂ ♀ ad. sk.	CoonoorGhât,May(*Slaughter*).	Hume Coll.
k. ♂ ad. sk.	Kullar, July (*Cockburn*).	Hume Coll.
l. ♂ ad. sk.	Kullar, Sept. (*Wardlaw Ramsay*).	Tweeddale Coll.
m. ♀ nr. ad. sk.	Nilghiri Hills, April (*Davison*).	Hume Coll.
n, *o.* ♀ nr. ad. et imm. sk.	Wynaad, April, May (*Davison*).	Hume Coll.
p–r. ♂ ad. et ♀ imm. sk.	Calicut.	Hume Coll.
s, *t.* ♂ ad. sk.	Malabar Coast.	Hume Coll.
u–x. ♂ ♀ ad. sk.	Malabar Coast.	Tweeddale Coll.
y. ♂ ad. sk.	Palani Hills, June (*Fairbank*).	Hume Coll.

z. ♂ ad. sk.	Eridge, Travancore, Dec.	F. W. Bourdillon Esq. [C.].
a'–c'. ♂ ♀ ad. sk.	Mynall, S. Travancore, Nov., Dec. (*Bourdillon*).	Hume Coll.
d', *e'*. ♂ imm. et ♀ ad. sk.	Ceylon.	Purchased.
f'–i'. ♂ ♀ ad. et imm. sk.	Ceylon, Jan., April (*Chapman*).	Tweeddale Coll.
k'–m'. ♂ ad. sk.	Ceylon, March (*Nevill*).	Tweeddale Coll.
n'–p'. ♂ ♀ ad. et ♂ imm. sk.	Ceylon.	Gould Coll.

4. Harpactes ardens.

Trogon ardens, *Temm. Pl. Col.* no. 404 (1826); *Gould, Mon. Trog.* ed. i. pl. 35 [text] (1835).

Harpactes ardens, *Gray, Gen. B.* i. p. 71 (1845); *Gray, List Fissir. Brit. Mus.* p. 44 (1848); *Bonap. Consp. Gen. Av.* i. p. 151 (1850); *Cassin, U.S. Expl. Exp., Mamm. & Orn.* p. 229 (1858); *Gould, B. Asia*, pl. 76 [text] (1862); *Gould, Mon. Trog.* ed. ii. pl. 39 [text] (1869); *Gray, Hand-l. B.* i. p. 84 (1869); *Wald. Tr. Z. S.* ix. p. 149 (1875); *Tweed. P. Z. S.* 1877, p. 540, 1878, pp. 107, 943; *Steere, List Birds & Mamm. Philippines*, p. 9 (1890).

Pyrotrogon ardens, *Bonap. Consp. Vol. Zyg.* p. 14 (1854); *Cab. & Heine, Mus. Hein.* Th. iv. p. 159 (1863).

Harpactes rhodiosternus, *Peale, U.S. Expl. Exp.* viii. p. 166, pl. 41 (1848); *Hartl. Wiegm. Arch.* xviii. p. 112 (1852).

Adult male. Lores and forehead black, shading gradually into deep crimson on the top of the head, occiput, and nape; feathered part of cheek, ear-coverts, chin, and throat black, shading into pinkish on the chest; upper breast dull crimson-scarlet, shading into scarlet on the rest of the underparts; back, rest of upper parts, wings, and tail as in *H. kasumba*, but the back is brown and the white terminal parts of the three outer pairs of tail-feathers dovetail obliquely with the black: bill yellow, green (black) at the base. Total length 12 inches, wing 5·3, tail 6·8, tarsus 0·5.

The *young male* resembles the adult female, but the middle of the breast, belly, and under tail-coverts are suffused with pink; the wing-coverts are narrowly barred like those of the male, but the bars are buff and the tail-feathers are as usual more pointed, and the centre pair are without the terminal black bar. In more adult specimens the pink chest and scarlet of the breast and underparts are more or less apparent.

Adult female. Resembles the adult female of *H. kasumba*, but the chin and throat are black, the chest is dull rusty buff (much the same colour as the rest of the underparts), the bars on the wing-coverts and secondaries are wider, and the rump is chestnut; bill like that of the male. Total length 12 inches, wing 5·2, tail 6·6, tarsus 0·5.

Hab. Philippine Islands.

a. ♂ ad. sk.	Philippines.	Gould Coll.
b–d. ♂ ad. et imm. sk.	Philippines.	Eyton and Cuming Colls.
e. ♂ ad. sk.	Luzon, Jan. (*Meyer*).	Tweeddale Coll.
f, g. ♂ ♀ ad. sk.	Manilla (*Maitland-Heriot*).	Tweeddale Coll.
h, i. ♂ imm. et ♀ ad. sk.	Manilla.	Gould Coll.
k. ♂ ad. sk.	Cataguan, Luzon.	Cuming Coll.
l. ♂ ad. sk.	Dinagat Isl., June (*Everett*).	Tweeddale Coll.
m. ♀ ad. sk.	Mindanao.	Purchased.
n. ♂ ad. sk.	Zamboanga.	'Challenger' Exped.
o–q. ♂ ♀ ad. et imm. sk.	Zamboanga (*Everett*).	Tweeddale Coll.

5. Harpactes whiteheadi.

Harpactes whiteheadi, *Sharpe, Ibis*, 1888, p. 395, pl. xii.; *Everett, J. Straits Br. R. As. Soc.* p. 166 (1889); *Sharpe, Ibis*, 1890, pp. 2, 281.

Adult male. Is most nearly allied to *H. ardens*, but the crown of the head is brilliant scarlet, the upper parts bright cinnamon, the chest is pearly grey, and the white wavy bars on the wing-coverts and secondaries are much finer and closer together: "bill and bare cheeks blue, as well as the bare patch round the eye; feet dull brownish pink; iris reddish brown" (*Whitehead*). Total length 12·2 inches, wing 5·2, tail 6·5, tarsus 0·6.

Adult female. Differs from the male in having the head, breast, and rest of underparts cinnamon instead of scarlet, and the bars on the wing-coverts and secondaries rust-colour instead of white. The grey chest separates it widely from the female of *H. ardens*, and reminds one of that of *H. kasumba*. Total length 12 inches, wing 5·4, tail 6·4, tarsus 0·6.

Hab. Mount Kina Balu, N. Borneo.

6. Harpactes erythrocephalus.

Race A.

Trogon erythrocephalus, *Gould, P. Z. S.* 1834, p. 25; *id. Mon. Trog.* ed. i. pl. 33 [text] (1838); *Büttikofer, Notes Leyd. Mus.* ix. p. 13 (1887).

Harpactes erythrocephalus, *Swains. Class. B.* ii. p. 337 (1837); *Gray, Gen. B.* i. p. 71 (1845); *id. List Fissir. Brit. Mus.* p. 45 (1848); *Gould, Mon. Trog.* ed. ii. pl. 43 [text] (1875); *Hume & Dav. Str. F.* vi. p. 498 (1878); *Hume, Str. F.* viii. p. 85 (1879); *Oates, Str. F.* viii. p. 164 (1879); *Bingham, Str. F.* ix. p. 152 (1880); *Hume & Inglis, Str. F.* ix. p. 246 (1880); *Oates, Str. F.* x. p. 186 (1882); *Oates, B. Burmah*, ii. p. 99 (1883); *Hume, Str. F.* xi. p. 41 (1888); *Sharpe, P. Z. S.* 1888, p. 280; *Oates, ed. Hume's Nests & Eggs Ind. B.* ii. p. 339 (1890).

Trogon hodgsonii, *Gould, Mon. Trog.* ed. i. pl. 34 (1838); *McClell. P. Z. S.* 1839, p. 166; *Gray, Cat. Hodgs. Draw.* p. 82 (1844).

Harpactes hodgsoni, *Gould, Mon. Trog.* ed. i. *Syn. of Spec.* (1838); *Blyth, J. As. Soc. Beng.* p. 168 (1842); *Gray, Gen. B.* i. p. 71

(1845); *Blyth, Cat. B. Mus. As. Soc.* p. 80 (1849); *Bonap. Consp. Gen. Av.* i. p. 151 (1850); *Horsf. & Moore, Cat. B. Mus. E. Ind. Co.* ii. p. 713 (1856–58); *Jerd. B. Ind.* i. p. 202 (1862); *Gould, B. Asia*, i. pl. 69 [text] (1865); *Beav. Ibis*, 1865, p. 407; *Blyth, Ibis*, 1866, p. 342; *Gould, Mon. Trog.* ed. ii. pl. 42 [text] (1869); *Gray, Hand-l. B.* i. p. 84 (1869); *Bulger, Ibis*, 1869, p. 155; *Blanf. Ibis*, 1870, p. 465; *Hume, Nests & Eggs Ind. B.* p. 99 (1873); *Hume, Str. F.* ii. p. 469 (1874), iii. p. 47 (1875), v. p. 18 (1877); *Bingham, Str. F.* v. p. 82 (1877); *Hume & Dav. Str. F.* vi. p. 66 (1878).

Pyrotrogon hodgsoni, *Bonap. Consp. Vol. Zyg.* p. 14 (1845); *Cab. & Heine, Mus. Hein.* Th. iv. p. 160 (1863)

Raya nipalensis, *Hodgs. MS., Icon. ined. in Brit. Mus., Passeres*, pl. 14. nos. 178, 179.

"Trogon dilectus, *Hamilton, MSS.* i. p. 63," *Horsf. & Moore, Cat. B. Mus. E. Ind. Co.* ii. p. 713 (1856–58).

Race B.

Trogon flagrans, *Müll. Tijdschr. Nat. Ges.* p. 338, pl. viii. fig. 2 (1835).

Harpactes flagrans, *Gray, Gen. B.* iii. App. p. 4 (1849); *Bonap. Consp. Gen. Av.* i. p. 151 (1850).

Pyrotrogon flagrans, *Bonap. Consp. Vol. Zyg.* p. 14 (1854).

Pyrotrogon erythrocephalus, *Cab. & Heine, Mus. Hein.* Th. iv. p. 160 (1863); ? *Salvad. Cat. Ucc. Borneo*, p. 28 (1874).

Trogon erythrocephalus, *Snellem. in Veth's Midden-Sumatra*, iv. p. 33 (1887).

Race A. (*H. erythrocephalus.*)

Adult male. Head, nape, and chest dull scarlet, gradually shading into bright scarlet on the breast and rest of underparts, the chest and breast being separated by a more or less distinct white band; back olive-rust, shading into rust on the rump and upper tail-coverts; thighs rust-colour; wings black, quills with white bases; the outer webs of the primaries margined with white; the secondaries and coverts, except the greater primary-coverts, with wavy bars and vermiculations of white; centre pair of tail-feathers chestnut, with a black terminal bar; second and third pairs black, chestnut towards the base of the outer web; three outer pairs black, with the last third of the outer web white and inner web squarely tipped with the same colour: culmen and tips of bill black, rest purplish blue; orbital skin and gape purplish blue; irides light brown; legs and feet dark fleshy purple. Total length 12·4 inches, wing 5·7, tail 7, tarsus 0·6.

An *immature male* differs from the adult in having the chest, especially the lower parts, and the top of the head mixed with orange-brown, some of the least wing-coverts and the outer secondaries mottled with rusty buff, and the tail-feathers pointed.

A *very young male* has the whole of the underparts mixed with rusty buff, and all the wing-coverts and secondaries widely barred and marked with the same, only a few red feathers being apparent on the top of the head, right side of the chest, and belly.

In a nestling male with the tail not half-grown the upper and lower surfaces are buff, and the secondaries and wing-coverts largely mixed with the same colour.

Adult female. Differs from the adult male in having the head, nape, and chest olive-brown like the back and the wing-coverts; the secondaries barred and vermiculated with rusty buff instead of white, and the iris crimson or red.

An *immature female* differs from the above only in having the tail-feathers as usual pointed instead of square at the tips.

Hab. Ranging from Nepal and Sikhim southwards through the Malay Peninsula.

a, b. ♂ ♀ ad. st.	Nepal.	B. H. Hodgson, Esq. [P.].
c–h. ♂ ♀ ad. et imm. sk.	Nepal.	B. H. Hodgson, Esq. [P.].
i–u. ♂ ♀ ad et imm. sk.	Sikhim, Feb., Mar., Apr., June, Oct., Nov., Dec. (*Mandelli*).	Hume Coll.
v–a′. ♂ ♀ ad. sk.	Darjeeling, April.	Hume Coll.
b′. ♂ imm. sk.	Darjeeling, Sept. (*Blanford*).	Tweeddale Coll.
c′, d′. ♂ ad. sk.	Garo Hills, Feb. (*Godwin-Austen*).	Tweeddale Coll.
e′–g′. ♂ ♀ ad. sk.	N. Khasia Hills, Mar., Dec. (*Chennell*).	Tweeddale Coll.
h′. ♂ ad. sk.	Near Gauhatti, Assam, Dec. (*Davison*).	Hume Coll.
i′–l′. ♂ ♀ ad. sk.	Near Suddya, April, June (*Cockburn*).	Hume Coll.
m′–p′. ♂ ♀ ad. sk.	Dollah, April, May (*Cockburn*).	Hume Coll.
q′. ♂ ad. sk.	Tippook, Mar. (*Cockburn*).	Hume Coll.
r′, s′. ♂ imm. et ♀ ad. sk.	Dibrughur, Jan., Sept. (*Cripps*).	Hume Coll.
t′, u′. ♂ ad. sk.	Tipperah.	Tweeddale Coll.
v′–x′. ♂ ad. sk.	Tipperah.	Hume Coll.
y′, z′. ♂ juv. et ♀ ad. sk.	Cachar, June (*Inglis*).	Hume Coll.
a″–f″. ♂ ♀ ad. et imm. sk.	Manipur, Feb., Mar. (*Hume*).	Hume Coll.
g″–k″. ♂ ♀ ad. et juv. sk.	Tonghoo, Mar., June, Aug., Nov. (*Wardlaw Ramsay*).	Tweeddale Coll.
l″–n″. ♂ ♀ ad. sk.	Karen-nee, Jan., Mar., April (*Wardlaw Ramsay*).	Tweeddale Coll.
o″. ♂ ad. sk.	Thayetmyo.	Hume Coll.
p″. ♀ ad. sk.	Arakan Hills, Jan. (*Oates*).	Hume Coll.
q″, r″. ♂ ♀ ad. sk.	Pegu Hills, April (*Oates*).	Hume Coll.
s″. ♂ ad. sk.	E. Pegu Hills, April (*E. W. O.*).	Oates Coll.
t″, u″. ♂ ♀ ad. sk.	Lower Pegu, May (*E. W. O.*).	Oates Coll.

v'', *w''*. ♂ ♀ ad. sk.	Bassein, Pegu.	W. T. Blanford, Esq. [P.].
x''. ♂ ad. sk.	Tenasserim.	Gould Coll.
y''. ♀ ad. sk.	Pahpoon, Jan. (*Davison*).	Hume Coll.
z''–*a*^{3}. ♂ ♀ ad. et imm. sk.	Salween Dist., Jan., Feb. (*Davison*).	Hume Coll.
b^3. ♀ ad. sk.	Thoungyeen Distr., Feb. (*Bingham*).	Hume Coll.
c^3. ♀ ad. sk.	Thoungyah, Sept. (*Darling*).	Hume Coll.
d^3, *e*^{3}. ♂ imm. et ♀ ad. sk.	Mooleyit, Jan., Feb. (*Davison*).	Hume Coll.
f^3, *g*^{3}. ♂ ♀ ad. sk.	Batu Putch, Perak.	L. Wray, Esq. [P.].
h^3. Sternum.	Pegu.	E. W. Oates, Esq. [P.].

Race B (*H. flagrans*).

Sumatran and Bornean [?] birds are decidedly smaller than those from India and the Malay Peninsula, and on this account have been separated from *H. erythrocephalus*; but as, beyond their smaller size, they in no respect differ from the latter they must be considered as merely an insular race*. Total length 11·5 inches, wing 5·1, tail 6·4, tarsus 0·6.

Hab. Sumatra, Borneo [?].

a. ♂ ad. sk.	Sumatra (*Bock*).	Tweeddale Coll.
b. ♂ ad. sk.	Mount Sago, Sumatra, Sept. (*Bock*).	Tweeddale Coll.
c, *d*. ♂ ♀ ad. st.	Borneo [?].	Purchased.

7. Harpactes duvaucelii.

Trogon kasumba, juv., *Raffl. Tr. Linn. Soc.* xiii. p. 283 (1822).

Trogon duvaucelii, *Temm. Pl. Col.* no. 291 (1824); *Gould, Mon. Trog.* ed. i. pl. 32 [text] (1838); *Müll. Verhandl. Land- en Volkenk.* p. 405 (1839–44).

Harpactes duvaucelii, *Swains. Class. B.* ii. p. 337 (1837); *Gould, Mon. Trog.* ed. ii. pl. 40 [text] (1858); *id. B. Asia*, i. pl. 67 [text] (1859); *Moore, P. Z. S.* 1859, p. 459; *Selat. P. Z. S.* 1863, p. 213; *Pelz. Novara Reis., Vög.* pp. 43, 161 (1865); *Gray, Hand-l. B.* i. p. 84 (1869); *Wald. Ibis*, 1871, p. 161; *Hume, Str. F.* iii. p. 318 (1875); *Sharpe, P. Z. S.* 1875, p. 102; *Tweedd. Ibis*, 1877, p. 298; *Hume & Dav. Str. F.* vi. pp. 63, 498 (1878); *Hume, Str. F.* viii. pp. 48, 85 (1879); *Sharpe, Ibis*, 1879, p. 239; *id. P. Z. S.* 1879, p. 326, 1881, p. 792; *Oates, B. Burmah*, ii. p. 101 (1883); *Nicholson, Ibis*, 1882, p. 57; *Sharpe, P. Z. S.* 1886, p. 353; *id. Ibis*, 1890, pp. 3, 281.

Pyrotrogon duvaucelii, *Salvad. Cat. Uce. Borneo*, p. 29 (1874); *Vorderman, Nat. Tijd. Ned. Ind.* i. Afl. iv. p. 421 (1890).

Harpactes rutilus, *Gray, Gen. B.* i. p. 71 (1845); *id. List Fissir.*

* The thighs in both Sumatran specimens in the British Museum are dark grey edged with red instead of rust.

Brit. Mus. p. 44 (1848); *Blyth, Cat. B. Mus. As. Soc.* p. 80 (1849); *Horsf. & Moore, Cat. B. Mus. E. Ind. Co.* ii. p. 712 (1856–58).

Pyrotrogon rutilus, *Cab. & Heine, Mus. Hein.* Th. iv. p. 154 (1863).

Adult male. Head, nape, chin, and throat deep black; back cinnamon-brown; rump and upper tail-coverts, chest, and rest of underparts brilliant scarlet; thighs grey tinged with rust; wings and tail as in *H. kasumba*; bill purplish blue at the base, rest black; gape and naked space above eye cobalt-blue; irides deep brown; legs and feet dark purplish blue. Total length 9·2 inches, wing 4·1, tail 5·1, tarsus 0·4.

Quite young males resemble the female, but the top of the head has a few black feathers; the chest and breast are mixed here and there with the scarlet feathers of the adult, and some of the white barred secondaries are usually present.

In somewhat older specimens the head and throat are nearly quite black, and the chest is nearly pure scarlet.

Adult female. Top of the head dark olive-brown; lores, feathered parts of cheeks, chin, throat, and back rust-brown, shading into dull pinkish or orange-red on the rump and upper tail-coverts; chest rusty buff tinged with pink and shading into dull orange-pink on the breast and rest of underparts; wings and tail as in the adult male, but the bars on the wing-coverts and secondaries are buff, and the terminal black band of the centre tail-feathers is much narrower. Total length 9·2 inches, wing 4·2, tail 5, tarsus 0·4.

Young females differ from the above in having the wing-coverts and secondaries more widely barred with buff, the breast less pink, the under tail-coverts buff, the tail-feathers pointed, the centre pair without the black terminal band and the second pair sometimes with a subterminal oval rufous spot.

Hab. S. Tenasserim southwards throughout the Malay Peninsula, Sumatra, Billiton, and Borneo.

a–c. ♂ ad. et imm. sk.	Palaw-ton-ton, Tenasserim, Dec. (*Davison*).	Hume Coll.
d. ♀ ad. sk.	Malawoon, Feb. (*Davison*).	Hume Coll.
e–n. ♂ ♀ ad. et imm. sk.	Bankasoon, Feb., Mar., May, June, Dec. (*Davison*).	Hume Coll.
o. ♂ ad. sk.	Perak Mountains.	L. Wray, Esq. [P.].
p–d'. ♂ ♀ ad. sk.	Klang, Salangore, Feb., Mar., April, July, Aug. (*Davison*).	Hume Coll.
e'. ♀ ad. sk.	Salangore, Sept. (*Davison*).	Hume Coll.
f'–l'. ♂ ♀ ad. et imm. sk.	Johore, Aug., Sept. (*Davison*).	Hume Coll.
m', n'. ♂ ad. et imm. sk.	Mt. Ophir, Malacca, Aug. (*Wardlaw Ramsay*).	Tweeddale Coll.
o', p'. ♂ ♀ imm. sk.	Neealys, Malacca, Oct. (*Davison*).	Hume Coll.
q'. ♂ ad. sk.	Kuroo, Malacca, Nov. (*Davison*).	Hume Coll.

r'–a''. ♂ ♀ ad. et imm. sk.	Malacca, July, Aug.	Hume Coll.
b'', *c''*. ♂ ♀ ad. sk.	Malacca (*Cantor*).	India Museum.
d''. ♀ ad. sk.	Malacca.	A. R. Wallace, Esq. [C.].
e''. ♂ ad. sk.	Lampong, S.E. Sumatra (*Buxton*).	Tweeddale Coll.
f''–m''. ♂ ♀ ad. et imm. sk.	Sumatra, Sept., Oct. (*Bock*).	Tweeddale Coll.
n''. ♂ ad. sk.	Sumatra.	A. R. Wallace, Esq. [C.].
o''–q''. ♂ ♀ imm. sk.	Borneo.	Gould Coll.
r''. ♂ ad. sk.	Labuan (*Low*).	Sharpe Coll.
s''. ♀ ad. sk.	Labuan.	Tweeddale Coll.
t''. ♂ ad. sk.	Sarawak (*Everett*).	Tweeddale Coll.

8. Harpactes orrhophæus.

?? Le Couroucou canelle, *Levaill. Hist. Courouc. et Tourac.* pt. iii. p. 20, pl. 14 (1806).
?? Trogon rutilus, *Vieill. N. Dict. d'Hist. Nat.* viii. p. 313 (1817).
?? Trogon cinnamomeus, *Temm. Pl. Col., Courouc.* sp. 6 (1825).
?? Duvaucelius rutilus, *Bonap. Consp. Vol. Zyg.* p. 14 (1854).
Trogon rutilus, *Gould* (*nec Vieill.*), *Mon. Trog.* ed. ii. pl. 41 [text] (1858); *Gould, B. Asia*, pl. 68 [text] (1859).
Harpactes rutilus, *Hume, Str. F.* vii. p. 65 (1878).
Pyrotrogon orrhophæus, *Cab. & Heine, Mus. Hein.* Th. iv. p. 156 (1863).

Adult male. Differs from *H. duvauceli* in having the rump and upper tail-coverts rusty brown instead of scarlet, the breast and underparts less brilliant, and the white bars on the wing-coverts and secondaries narrower and more wavy. It is also somewhat larger in size. Total length 10·2 inches, wing 4·3, tail 5·1, tarsus 0·5.

Adult female. Differs from the female of *H. duvauceli* in having the top of the head darker, the feathers on the lores, round the eyes, and on feathered parts of cheeks bright rust-red; the feathers on the sides of the chin and throat mostly black; the rump, upper tail-coverts, and the whole of the underparts rusty buff, paler on the belly and under tail-coverts, and the rust-coloured bars on the secondaries wider apart from one another. Total length 10·2 inches, wing 4·3, tail 5, tarsus 0·5.

Hab. Southern part of the Malay Peninsula.

a. ♂ ad. sk.	Klang, April (*Davison*).	Hume Coll.
b–e. ♂ ad. sk.	Malacca, July.	Hume Coll.
f. ♂ ad. sk.	Malacca.	Tweeddale Coll.
g. ♀ imm. sk.	Singapore [?].	Gould Coll.
h–k. ♂ ♀ ad. sk.		Gould Coll.

9. Harpactes oreskios.

Trogon oreskios, *Temm. Pl. Col.* no. 181 (1823); *id. Pl. Col., Couroue.* sp. 8 (1825); *Steph. in Shaw's Gen. Zool.* xiv. p. 220 (1826); *Less. Traité Orn.* p. 121 (1831); *Gould, Mon. Trog.* ed. i. pl. 36 [text] (1838).

Harpactes oreskios, *Gould, Mon. Trog.* ed. i. *syn. spec.* Harpactes (1838); *Gray, Gen. B.* i. p. 71 (1845); *id. List Fissir. Brit. Mus.* p. 45 (1848); *Blyth, Cat. B. Mus. As. Soc.* p. 80 (1849); *Bonap. Consp. Gen. Av.* i. p. 151 (1850); *Horsf. & Moore, Cat. B. Mus. E. Ind. Co.* ii. p. 716 (1856-8); *Gould, B. Asia*, i. pl. 71 [text] (1865); *Wald. P. Z. S.* 1866, p. 538; *Gould, Mon. Trog.* ed. ii. pl. 46 [text] (1869); *Beav. Ibis*, 1869, p. 407; *Gray, Hand-l. B.* i. p. 84 [text] (1869); *Hume, Str. F.* iii. p. 47 (1875); *Bingham, Str. F.* v. pp. 50, 82 (1877); *Dav. Str. F.* v. p. 454 (1877); *Hume & Dav. Str. F.* vi. pp. 66, 498 (1878); *Bingham, Str. F.* ix. p. 152 (1880); *Oates, Str. F.* x. p. 186 (1882); *id. B. Burmah*, ii. p. 100 (1883); *Sharpe, Ibis*, 1888, p. 395; *id. P. Z. S.* 1888, p. 280; *Oates, Hume's Nests & Eggs Ind. B.* ii. p. 342 (1890).

Harpactes orescius, *Blyth, B. Burm.* p. 82 (1875); *Oates, Str. F.* x. p. 186 (1882); *Sharpe, Ibis*, 1890, pp. 3, 281.

Oreskios gouldi, *Bonap. Consp. Vol. Zyg.* p. 14 (1854).

Orescius gouldi, *Cab. & Heine, Mus. Hein.* Th. iv. p. 161 (1863); *Salvad. Cat. Ucc. Borneo*, p. 31 (1874).

Adult male. Head and nape olive-yellow, shading into brighter on the chest and especially the chin, which is nearly pure yellow; back, rump, and upper tail-coverts chestnut; upper breast fiery orange, shading into yellow on the belly and under tail-coverts; wings and tail as in *H. kasumba*, but the white bars on the wing-coverts and secondaries are much wider, straighter, and more distant from one another: bill bright blue, ridge of culmen and tip of lower mandible blackish brown; eyelids blue; legs and feet pinkish grey. Total length 11·3 inches, wing 4·9, tail 6·6, tarsus 0·5.

Immature males differ from the adult only by having the outer secondaries pale buff, irregularly barred and blotched with black, and the inner ones black, toothed and margined with buff on the outer web; the tail-feathers are, as usual, pointed, the centre pair being without the black terminal band.

A nestling male with the tail only beginning to sprout resembles the female in the colouring of the upper parts, but the throat is mostly covered with black down and the whole of the rest of the under surface is rusty buff.

Adult female. Top of the head brown tinged with yellow; back dull brown, shading into rust on the rump and upper tail-coverts; chest sandy brown washed with yellow; breast and rest of under-parts lemon-yellow; wings and tail like those of the male, but the wing-coverts and secondaries are barred with buff instead of white, the buff bars being as wide or nearly as wide as the black inter-spaces. Total length 11·2 inches, wing 4·8, tail 6·6, tarsus 0·55.

Immature females differ from the above in having the outer secondaries buff, blotched and barred with black, and the inner ones black, widely toothed and blotched with very pale buff, and the tail-

feathers pointed, the centre chestnut pair being without a black terminal band.

Hab. Burma, Siam, Cochin China, Malay Peninsula, Sumatra, Java, and Borneo.

a, b. ♂ ♀ ad. sk.	Tonghoo, Feb. (*Wardlaw Ramsay*).	Tweeddale Coll.
c, d. ♂ ad. et ♀ imm. sk.	Karen Hills, Jan. (*Wardlaw Ramsay*).	Tweeddale Coll.
e. ♀ ad. sk.	Lower Pegu, March	E.W.Oates,Esq.[C.].
f–i. ♂ ♀ ad. et imm. sk.	Kyouk-nyat, Salween Dist., Jan. (*Davison*).	Hume Coll.
k. ♂ ad. sk.	Thoungyeen, Feb. (*Bingham*).	Hume Coll.
l. ♂ ad. sk.	Sinzaway Forest, Yonzaleen R., Apr. (*Bingham*).	Sharpe Coll.
m–p. ♂ ♀ ad. sk.	Dargwin, Salween Dist., Jan. (*Davison*).	Hume Coll.
q, r. ♂ ad. sk.	Pahpoon, Salween Dist., Jan. (*Davison*).	Hume Coll.
s. ♀ ad. sk.	Kaukaryit, Houngthraw R., June (*Bingham*).	Sharpe Coll.
t, u. ♂ ♀ ad. sk.	Thatone, Jan., Feb. (*Davison*).	Hume Coll.
v–z. ♂ ♀ ad. sk.	Wimpong, near Thatone, Jan., Dec. (*Davison*).	Hume Coll.
a'. ♀ imm. sk.	Meetan, Feb. (*Davison*).	Hume Coll.
b'. ♂ ad. sk.	Nedong, Attaran River, Dec. (*Davison*).	Hume Coll.
c', d'. ♂ imm. et ♀ ad. sk.	Amherst, July, Dec. (*Davison*).	Gould & Hume Colls.
e'–h'. ♂ ♀ ad. sk.	Near Yea, Mar., April (*Davison*).	Hume Coll.
i'. ♂ imm. sk.	Meeta Myo, Tavoy, April (*Davison*).	Hume Coll.
j'–m'. ♂ ♀ ad. et imm. sk.	Near Tavoy, April, May (*Davison*).	Hume Coll.
n'–q'. ♂ ♀ ad. et imm. sk.	Foot of Nwalabo Mt., March, April (*Davison*).	Gould & Hume Colls.
r', s'. ♂ ad. sk.	Mergui, July, Nov. (*Davison*).	Hume Coll.
t', u'. ♂ ad. sk.	Pakchan, Jan. (*Davison*).	Hume Coll.
v'–y'. ♂ ♀ ad. et juv. sk.	Bankasoon, Mar., April, Dec. (*Davison*).	Hume Coll.
z'. ♂ ad. sk.	Kohtown, Victoria Pt., Mar. (*Davison*).	Hume Coll.
a''. ♂ ad. sk.	S. Tenasserim, Dec.	E.W.Oates,Esq.[C.].
b'', c''. ♂ ♀ ad. sk.	Tenasserim.	Gould Coll.
d'', e''. ♂ ♀ ad. sk.	Batu, Putch, Perak.	L. Wray, Esq. [P.].
f''. ♂ ad. sk.	Meklong, Siam.	H. C. V. Hunter, Esq. [P.].
g''. ♀ ad. sk.	Saigon, April.	M. E. Pierre [P.].
h''–l''. ♂ ♀ ad. sk.	Java.	Gould & Tweeddale Colls.

8. HAPALARPACTES.

	Type.
Apalharpactes, *Bonap. Consp. Vol. Zyg.* p. 14 (1854) . .	H. reinwardti.
Aphalharpactes, *Horsf. & Moore, Cat. B. Mus. E. Ind. Co.* ii. p. 716	H. reinwardti.
Hapalarpactes, *Cab. & Heine, Mus. Hein.* iv. p. 162 (1863)	H. reinwardti.

Three centre pairs of tail-feathers bluish green in both sexes, without a terminal black bar. Infraloral space, gape, cheeks, and space behind the eye naked. Upper tail-coverts not abnormally developed. Upper mandible not toothed behind the subterminal notch. Throat yellow.

Range. Java and Sumatra.

1. Hapalarpactes reinwardti.

Trogon reinwardti, *Temm. Pl. Col.* no. 124 (1823); *id. Pl. Col., Couroue.* sp. 5 (1825); *Less. Traité Orn.* p. 122 (1831); *Gould, Mon. Trog.* ed. i. pl. 27 [text] (1838); *Jardine & Selby, Illust. Orn.* pl. cxxx. (1825–43); *Huxl. P. Z. S.* 1867, p. 444.

Trogon rienwardti, *Steph. in Shaw's Gen. Zool.* xiv. p. 221 (1826).

Apaloderma reinwardti, *Swains. Class. B.* ii. p. 337 (1837).

Harpactes reinwardti, *Hartl. Verz. Mus. Brem.* p. 12 (1844); *Gray, Gen. B.* i. p. 71 (1845); *Gray, List Fissir. Brit. Mus.* p. 45 (1848); *Bonap. Consp. Gen. Av.* i. p. 151 (1850); *Gould, B. Asia,* i. pl. 72 [text] (1865); *Gould, Mon. Trog.* ed. ii. pl. 44 [text] (1869); *Gray, Hand-l. B.* i. p. 84 (1869).

Apalharpactes reinwardti, *Bonap. Consp. Vol. Zyg.* p. 14 (1854); *Vorderm. Nat. Tijd. Ned. Ind.* xlv. p. 321 (1886).

Hapalarpactes reinwardti, *Cab. & Heine, Mus. Hein.* Th. iv. p. 162 (1863).

"Trogon sulphureus, *Beybie*" (*nec Spix*), *Bonap. Consp. Gen. Av.* i. p. 151 (1850).

Harpactes orescius, *Blyth, Ibis,* 1865, p. 32.

Adult male. Top of the head olive-green, shading into olive-brownish green on the feathered parts of the cheeks and chest; back dark green glossed with bluish green; throat, breast, and under tail-coverts yellow, shading into orange on the belly; thighs greyish green; wings black; quills with white bases; primaries margined on the outer web with white; secondaries and wing-coverts, except the greater primary-coverts, which are uniform black, dark glossy green crossed by numerous narrow yellow bars; three middle pairs of tail-feathers dark green glossed with bluish purple; three outer pairs the same, but with the greater part of the outer web white and the inner web squarely tipped with white: bill bright orange; feet apparently flesh or orange. Total length 13·3 inches, wing 5·7, tail 7·5, tarsus 0·7.

Adult female. Resembles the male, but the throat, breast, and rest of underparts are less brilliant, and the narrow bars of the

secondaries and wing-coverts are represented by brownish lines. Total length 13·3 inches, wing 5·5, tail 7·1, tarsus 0·7.

A quite young specimen has the whole plumage dark brownish grey, with only a few greenish-blue feathers on the rump; the wing-coverts and secondaries with spots and blotches of buff, the belly mixed with white, and the black on the outer webs of the outer tail-feathers extends nearly as far up as on the inner web, but is barred with white on the two outer pairs.

Hab. Java.

a. ♂ ad. st.	Java.	J. Gould, Esq. [P.].
b. ♂ ad. sk.	W. Java.	A. R. Wallace, Esq. [C.].
c. ♀ ad. sk.	W. Java (*Wallace*).	Gould Coll.
d. ♀ ad. sk.	[Java.]	Gould Coll.
e. Imm. sk.	[Java.]	Purchased.
f. Imperfect skel.		

2. Hapalarpactes mackloti.

Trogon mackloti, *Müll. Tijd. Nat. Gesch.* p. 336, pl. iv. fig. 1 (1835); *Snelleman in Veth's Midden-Sumatra*, iv. p. 33 (1887).

Harpactes mackloti, *Gray, Gen. B.* iii. App. p. 4 (1849); *Bonap. Consp. Gen. Av.* i. p. 151 (1850); *Gould, B. Asia*, i. pl. 73 [text] (1865); *id. Mon. Trog.* ed. ii. pl. 45 [text] (1869).

Apalharpactes mackloti, *Bonap. Consp. Vol. Zyg.* p. 14 (1854).

Hapalarpactes mackloti, *Cab. & Heine, Mus. Hein.* Th. iv. p. 163 (1863).

Harpactes reinwardti, *Horsf. & Moore, Cat. B. Mus. E. Ind. Co.* ii. p. 716 (1856–8).

Adult male. Differs from the male of *H. reinwardti* in its much smaller size and by having the lower back and rump dark chestnut. Total length 11·3 inches, wing 5·1, tail 6·5, tarsus 0·6.

An *immature female* differs from the above in having the outer secondaries narrowly margined and most of the coverts spotted at the extremity with buff.

A quite young specimen (most likely a male, as the chestnut rump and adult colours of the rest of the upper parts are well developed) has the whole under surface rust-colour edged with brown, the secondaries barred with white instead of yellow, and the wing-coverts largely spotted with whitish buff subterminally.

Adult female. Differs from the adult female of *H. reinwardti* only in being much smaller. Total length 11 inches, wing 5·1, tail 6, tarsus 0·6.

Hab. Sumatra.

a, b. ♂ ♀ ad. sk.	Ayerangat, Sumatra (*Bock*).	Tweeddale Coll.
c. ♂ ad. sk.	Paio, Sumatra (*Bock*).	Tweeddale Coll.
d. ♀ imm. sk.	M. Sago, Sumatra, Sept. (*Bock*).	Tweeddale Coll.
e–h. ♀ ad. et imm. sk.	Sumatra.	Tweeddale Coll.
i. ♂ juv. sk.	[Sumatra.]	Zoological Soc. Coll.

ADDENDA.

The following additions and corrections have become necessary during the progress of the present volume through the press.

Page 20. **Coracias lorti.**

Add:—

a, *b*. Ad. sk.	Somali-land.	E. Lort Phillips, Esq. [C.]. (Types of the species.)

Page 24. **Coracias nævius.**

Add:—

n, *o*. Ad. sk.	Somali-land.	E. Lort Phillips, Esq. [C.].

Page 44. **MELITTOPHAGUS.**

Alter the Key to the Species as follows:—

a. Outer aspect of quills fawn-colour or chestnut, etc.
a'. Band on lower throat black, etc.
b'. Band on lower throat rich ultramarine-blue, etc.
b. Outer aspect of quills green, internally fawn-coloured; tail green, with a broad black band before a white tip; the inner webs fawn-coloured towards the base; a blue-black band on the lower throat ..... *oreobates*, p. 498.
c. Outer aspect of quills chestnut, etc. ..... *gularis*, p. 50.
d. Outer aspect of quills green, etc.

Page 48. **Melittophagus cyanostictus.**

Add:—

r, *s*. Ad. sk.	Somali-land.	E. Lort Phillips, Esq. [C.].

Page 51. Add:—

6 *a*. **Melittophagus oreobates.**

Melittophagus oreobates, *Sharpe, Ibis*, 1892, p. 320.

Adult male. General colour above grass-green, slightly washed with blue; wing-coverts like the back; primaries green, dusky towards the ends, and fawn-colour along the inner web; secondaries fawn-colour for the most part, externally green, with a broad band of black before the tip, which is ashy whitish; inner secondaries bluish green like the back; centre tail-feathers bluish green, the remainder fawn-colour on their inner web, green externally, with a broad black band before the tips, which are ashy whitish; crown

of head green like the back, with a very narrow line of bright blue along the base of the forehead, extending backwards over the eye; lores, feathers below the eye, and ear-coverts black; cheeks and throat golden-yellow; the hinder cheeks whitish; a blue-black patch on the lower throat; fore neck and chest bright chestnut; rest of under surface fawn-colour, with a slight wash of olive-green; sides of body deep cinnamon-rufous, like the under wing-coverts and quill-lining; edge of wing washed with green; under tail-coverts pale fawn-colour washed with green, the long ones entirely green: bill black; feet dusky brown; iris crimson. Total length 8·5 inches, culmen 1·5, wing 4, tail 3·5, tarsus 0·35.

Hab. Mt. Elgon, Central East Africa.

Add:— Page 54. **Melittophagus revoilii.**

b. Ad. sk.	Somali-land.	E. Lort Phillips, Esq. [C.].

Add:— Page 74. **Merops ornatus.**

l'', *m''*. Ad. sk.	Adelaide River, N. Australia (*Dr. Bassett Smith*).	Voy. H.M.S. 'Penguin.'

Add:— Page 85. **Merops nubicus.**

v, *w*. Ad. sk.	Somali-land.	E. Lort Phillips, Esq. [C.].

Add:— Page 123. **Ceryle stellata.**

r. ♂; *s*, *t*. ♀ ad. sk.	Central Chili.	Berkeley James Coll.

Page 201. **Melidora macrorhina.**

Line 20 from the bottom, *for* "eufrosiæ" *read* "euphrosiæ."

Add:— Page 207. **Dacelo cervina.**

z. Ad. sk.	Adelaide River, N. Australia.	Voy. H.M.S. 'Penguin.'

Page 209. **Sauromarptis gaudichaudi.**

Line 15 from bottom, *for* "Choncalcyon" *read* "Choucalcyon."

Page 232. **Halcyon semicæruleus.**

Line 11 from the bottom, *for* Dacelo "aetæon" *read* Dacelo "actæon."

Add:—

h', *i'*, *k'*. Ad. sk.	Somali-land.	E. Lort Phillips, Esq. [C.].

Add:— Page 254. **Halcyon macleayi.**

x. Ad. sk.	Adelaide River, N. Australia (*Dr. Bassett Smith*).	Voy. H.M.S. 'Penguin.'

Add :— Page 258. **Halcyon pyrrhopygius.**

m. Ad. sk.	Port Darwin, N. Australia (*Dr. Bassett Smith*).	Voy. H.M.S. 'Penguin.'

Add :— Page 267. **Halcyon sanctus.**

m^3. Ad. sk.	Troughton Is., N.W. Australia, Sept. 4 (*Dr. Bassett Smith*).	Voy. H.M.S. 'Penguin.'

Page 306. **Tanysiptera margaritæ.**

Spec. *h–n* are the types of *Tanysiptera isis* of Gray.

Page 310. **Tanysiptera dea.**

Spec. *f*, *g* are the types of *Tanysiptera nais*, Gray, not "of the species."

Add :— Page 319. **Momotus momota.**

n, *o*. ♂ ad. ; *p*, *q*. Ad. sk.	Quonga, British Guiana, Oct., Nov., March (*H. Whitely*).	Salvin-Godman Coll.

Page 341. Add :—

3 *a*. Colius nigriscapalis.

Colius nigriscapalis, *Reichen. Bericht Sitz. Allg. deutsch. orn. Gesellsch.* Feb. 1892, p. 3.

Similar to *C. nigricollis*, but more obscurely coloured, with a fulvescent instead of a greyish head, the back and rump dull rufescent; the shafts of the tail-feathers black instead of dusky horn-colour. (*Reichenow, l. c.*)

Hab. Camaroon Mountains, W. Africa.

Add :— Page 342. **Colius affinis.**

Colius leucotis affinis, *Shelley, Ibis*, 1885, p. 312.

Page 386. **Rhytidoceros plicatus.**

Refer *Buceros rostratus*, Forst., mentioned on p. 428, to the synonymy of this species.

Page 393. **Ptilolæmus austeni.**

Lines 5 and 10 from bottom, for *A. tickelli* read *P. tickelli*.

Page 401. **Lophoceros semifasciatus.**

Line 18, *for* "primaries" *read* "tail-feathers."

Page 420. **Bycanistes cylindricus.**

Third line from bottom, *for* "casuarius" *read* "casuarinus."

Page 426. **Orthotolophus leucolophus.**

Lines 12 and 20, for *B. albocristatus* read *O. albocristatus*.

Page 474. **Trogon macrurus.**

Line 26, for *Proctes* read *Troctes*.

Page 481. **HARPACTES.**

Alter the Key to the Species as follows :—

(*Males.*)

b. Breast and underparts orange.
e'. Upper parts paler chestnut; chin, throat, and chest nearly pure yellow ..... *oreskios*, p. 494.
f'. Upper parts darker chestnut; chin, throat, and chest olive-yellow ..... *dulitensis*, p. 502.

(*Females.*)

g''. Chest rufous-buff; size etc.
e'. Throat, chest, and breast rust-red..... *vidua*, p. 501.
c. Breast and belly orange.
f'. Throat and chest sandy-brown ..... *oreskios*, p. 494.
g'. Throat and chest grey, washed with dull olive-green ..... *dulitensis*, p. 502.

Add:— Page 482. **Harpactes diardi.**

h''. ♂ ad. sk.	Mt. Dulit, N.W. Borneo, 5000 ft., Oct.	C. Hose, Esq. [C.]

Add:— Page 488. **Harpactes whiteheadi.**

a, b. ♂ ♀ ad. sk.	Mt. Kina Balu, N. Borneo, May (*J. Whitehead*).	H. Seebohm, Esq. [P.].
c, d. ♂ ♀ imm. sk.	Mt. Dulit, N.W. Borneo, 5000 ft., Oct.	C. Hose, Esq. [C.].

Page 493. Add:—

8 *a*. **Harpactes vidua.**

Adult female. Resembles the adult female of *H. orrhophœus*, from which, however, it differs in the following particulars :—the top of the head is olive-brown instead of blackish brown; the back olive-brown in place of rufous-brown; the rump and upper tail-coverts olive-buff instead of dull rust-colour; the wing-coverts and secondaries are more widely barred with rufous-buff; and lastly, but most important of all, the chin and throat are uniform rust-red, whereas in *H. orrhophœus* the feathers on the sides of these parts are mostly black. Total length 9·5 inches, wing 4·4, tail 4·9, tarsus 0·55.

Hab. Mt. Dulit, N.W. Borneo, and Mt. Kina Balu.

a. ♀ ad. sk.	Mt. Dulit, N.W. Borneo, 4500 ft., Oct.	C. Hose, Esq. [C.]. (Type of the species.)

It is unfortunate that no male specimen of this species has yet been obtained, the only specimen in Mr. Hose's collection being a female. This is the second female I have seen, for another exactly similar bird was obtained by Mr. J. Whitehead on Kina Balu (see Sharpe, Ibis, 1890, p. 4). I examined this specimen during the preparation of the Catalogue of *Trogonidæ*, and convinced myself that it belonged to an undescribed species allied to *H. orrhophæus*, but with only a female skin from which to draw one's conclusions, I thought it safer to await further material.

Page 495. Add:—

9 *a*. **Harpactes dulitensis.** (Plate XVII.)

Adult male. Differs from the male of *H. oreskios* in having the chin, throat, and chest olive-yellow like the head and nape; the back, rump, upper tail-coverts, and centre pair of tail-feathers much darker chestnut; the upper breast much less fiery; the under tail-coverts yellower, the white bars on the wing-coverts and secondaries narrower, and the terminal white portion of the three outer pairs of tail-feathers shorter. Total length 10·5 inches, wing 5, tail 6·1, tarsus 0·5.

Adult female. Differs from the female of *H. oreskios* in having the head, nape, throat, and chest grey washed with dull olive; the back darker brown; the breast without any trace of orange on the upper parts; the buff bars on the wing-coverts and secondaries much narrower than the black interspaces, and the terminal white portion of the three outer pairs of tail-feathers shorter.

Hab. Mt. Dulit, N.W. Borneo.

a, *b*. ♂ ♀ ad. sk.	Mt. Dulit, N.W. Borneo, 5000 ft., Oct.	C. Hose, Esq. [C.]. (Types of the species.)

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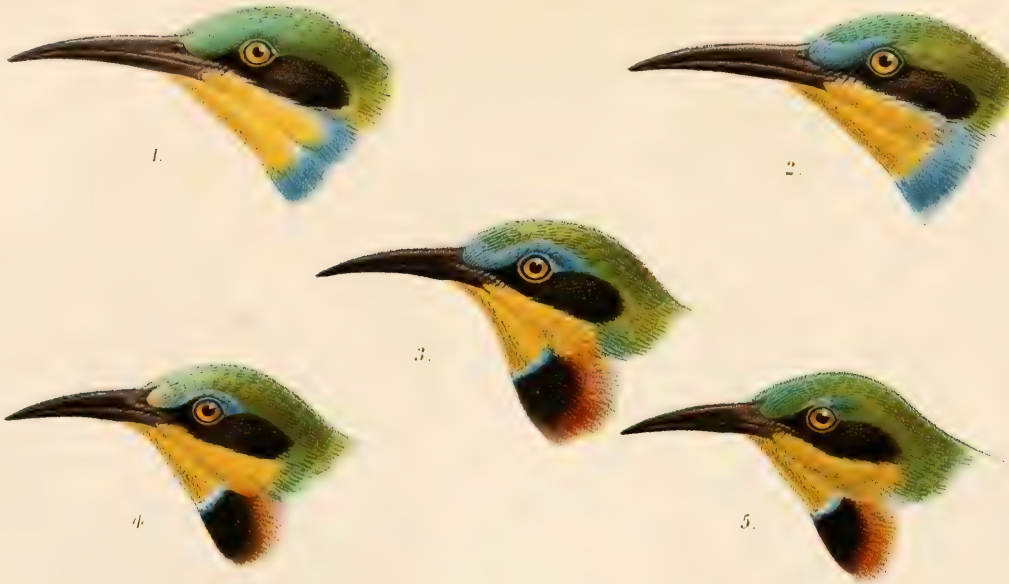

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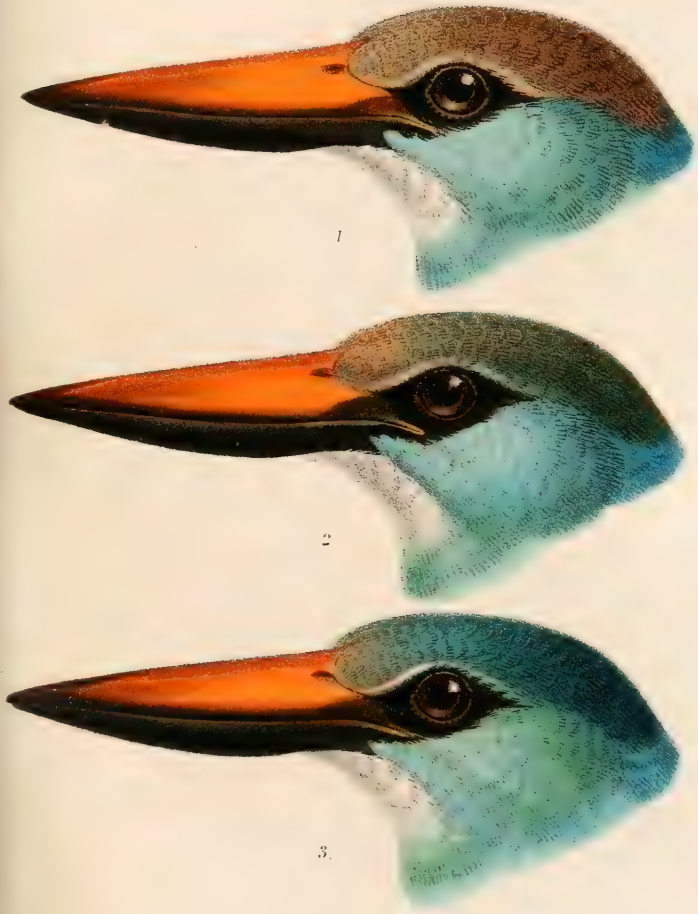

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W. H. FLOWER,
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